

DESCRIPTION OF A NEW RULE FOR TESTING FANS.—No. 1.

BY PROF. A. S. HERSCHEL, M.A., F.R.S.

At the recent meeting of the South Staffordshire and East Worcestershire Institute of Mining Engineers the secretary read a paper embodying the result of Prof. HERSCHEL'S enquiries into the working of fans as communicated to him both personally and by letter. Mr. SMITH said that the Institute had devoted much time, and taken a great interest in this subject, and so that the whole facts may be before you, he would briefly review the history of the question before giving the, no doubt, correct elucidation of the matter arrived at for the first time by Prof. Herschel. At the September meeting last year the Rev. G. M. Capell read a paper upon experiments made with his patent fan, and although the results given appeared very satisfactory, many of the prominent members called Mr. Capell's attention to the fact that one very important element, that of the power required to drive the fan, was wanting, and a promise was given that some power tests should be made at which representatives of the Institute would be invited to be present. A series of tests were made, and at the November meeting Mr. Treglown gave the figures of those he had witnessed, and remarked—The experiments showed that 90 per cent. of the power of the engine was being got out of the fan, and this was more than had ever been obtained. If the water pressure was not correct or varied under different circumstances it might alter the case entirely.

In the discussion of the subject Mr. A. SOPWITH said—It was perfectly well recognised that ordinarily efficient fans gave from 40 to 60 per cent. of useful effect—i.e., of the steam in cylinder, also that the loss of power due to friction and deficiencies of engine varied from 18 to 25 per cent. The margin existing for anyone wishing to construct a perfect fan (and allowing that air can be passed through a fan without friction) was only about 20 per cent., but as there must be some friction this percentage was reduced to 10 or 15 per cent. at the outside, and even that amount was questionable. Further on Mr. Sopwith said—In the case of the fan before the meeting they were led to understand that the horse power in air passed through it was three or four times as much as the power exerted in the engine. Mr. Capell himself admitted the anomaly, and yet there was a constant recurrence of data which would, if correct, prove such extraordinary results. Whilst allowing there might be some decided superiority in the Capell fan, the inventor would not like it to go forth that it was possible to create power. We need hardly point out how a slight difference in the water gauge, and the quantity of air would together alter the results. Therefore it was necessary that more careful experiments should be made. Mr. GLENNIE stated—The fan was apparently passing 12,370 cubic feet of air per minute, and calculated in the ordinary way the horse power in the air would be 6·82-horse power, or more than double that of the engine driving the fan. This of course could not be correct, and such a result pointed either to incorrect methods of observation employed, or to an error in the generally received method of calculating the horse power in the air. Mr. SMITH stated—I could confirm the statements of Mr. Glennie. In some of the experiments we were met with the extraordinary paradox that power was being created, and, of course, we would not like it publicly stated we were doing anything so apparently ridiculous. There was a mistake somewhere, and in my opinion it was in the manner in which we applied the water-gauge indications as a factor, and it behaved us as engineers to discover it. In a mine the gauge indicated the drag, but here it was only a sort of wind-gauge.

The formula used by the members was the common one multiplying the volumes, the inches of water-gauge, and (5·2) the weight of a square foot of water 1 in. deep into each other, and dividing the product by 33000. Many other members spoke in the same strain, and it was agreed that the figures obtained should not go forth to the public, but a committee was formed to further test the fans with a view to correcting the formula or conditions under which the observations were made. The figures were sent by Mr. Capell to the Engineer, and criticised in an article, the writer of which says—The work done by a fan consists in imparting to a certain weight of air, previously at rest, motion at some velocity. A paddle-wheel does for water what a fan does for air—it puts a weight of it in motion. [Note by Prof. Herschel—Wide classes of difference in mode of action exist between fans, paddle-wheels, screw propellers, and turbines working reversibly or irreversibly which quite prevent any strict reasoning from analogy between their effects. To show this in detail and to disprove the proposition that visible motion given to air (which is not really at rest originally as it appears to be) measures the work of a fan upon it, would, however, lead very far beyond the limits and scope of the discussion intended in the present paper.] The fact that air is an elastic fluid, while water is an inelastic liquid, in no way affects the problem, save in the sense that these respective characteristics modify the velocity under given conditions. Thus air will flow more readily than water will through crooked or tortuous passages. In order to ascertain what is the net work done by a fan we must ascertain the weight of air and the velocity of it discharged from the fan in a minute, or an hour, or other suitable intervals; with these figures in our possession the rest is easy. [This mode of estimation neglects the vacuum raised at the fan-inlet which is a considerable element of a fan's work performance.—A. S. H.] To show this we give an example, and we take Mr. Capell's figures as stated in the paper read by him at Dudley, but it must be understood that we do not undertake to say whether these figures are right or wrong.

Into a fan having an inlet orifice of 19½ in. diameter air rushed at the rate of 4280 ft. per minute, we may take it that the exit velocity was the same. [It is far otherwise, however; the exit velocity in the double-power fans being practically very trifling.—A. S. H.] These figures are sufficient for our purpose. A circle 19½ in. diameter has an area 306·35 square inches, or 2·128 square feet, and 2·128 × 4280 = 9108 cubic feet per minute, omitting fractions. We do not know what was the temperature of the air when the experiment with which we are dealing was made, but we shall not be far wrong if we assume that 13 cubic feet weighed 1 lb. Now, 9108 divided by 13 is equal to 700 in round numbers—that is to say, Mr. Capell's fan delivered air at the rate of 700 lbs. per minute. The work stored in this air could not be greater than the power expended in putting the air in motion. [This cannot possibly be affirmed without consideration of the accompanying vacuum which existed at the place of measurement of the high velocity.—A. S. H.] Allowance must also be made for friction and waste, consequently the power expended by the engine must be greater than that found in the air. The power in the air as found by the usual formula was 920·3 ft. lbs. per second, or about 1½-horse power. We believe that the engine indicated about 2½-horse power, and this is what we should anticipate, allowance being made for engine and belt friction, and the waste of power expended in churning the air in the fan, and in driving it over the comparatively rough metal surfaces. Mr. Capell, at the suggestion of the Engineer, arranged to put the matter into the hands of an experimental engineer of high standing, and Mr. D. K. Clarke, M.Inst.C.E., was selected.

Several fans were submitted by Mr. Clarke to a most elaborate series of tests, and in arriving at the power consumed used the formula advocated in the Engineer article, but in almost every test of the exhaust fans (which were those tested by the Institute) he arrives at the same paradox that the power in the air is much in excess of that given out by the engine. Mr. CLARKE says—This paradox is explained by the fact that the velocity of the air is necessarily retarded in passing through the fan [This is so; by the gradual enlargement, from the centre to the circumference, of the fan's passages.—A. S. H.], and that the network expended in moving the air through it provided by the engine, irrespective of the resistances of friction, eddies, and changes of direction, is that which is due to the final or departing velocity of the air discharged at the periphery. This velocity is so much less than the entering velocity in the tube that the work due to it, and the frictional resistances together, is less than the work momentarily done on the air in the suction tube. A stream of air or of water passing through a conduit, which is constricted at one part of its course, approaches the constriction with accelerated velocity, leaves it with retarded velocity, and resumes the previous velocity, the energy appropriated in pro-

ducing the acceleration being equal to the energy developed during retardation. In other words, energy is stored and restored. To apply this illustration to the case of the exhaust fan the suction tube represents the constriction, having the sectional area 5·58 square feet, whence an enlargement takes place on the way to the periphery of the fan where the area for outflow is 34 square feet. The approaching current in the conduit is represented by the atmospheric current which approaches the opening of the suction tube with accelerated velocity. To render the parallel complete the fan case may be supposed to be applied in duplicate to the entrance of the suction tube, as in the annexed figure in which *a* is the fan and its case, *b* is the suction tube, and *c* is the duplicate case. The air would enter at the periphery the case *c*, and would pass with accelerated velocity to the suction tube *b*, whence it would pass away to the periphery of the fan and case *a* with necessarily retarded velocity, leaving the case *a* with a velocity equal to that with which it would enter the case *c*. Although, therefore, work may be stored in the air current traversing the suction pipe greater in amount than the work delivered from the engine to the fan, the extra work is only lent for the occasion, and is restored in the passage of the current to the periphery of the fan. [Dealing again with figures given by his trials of two blast fans of Mr. Capell's pattern, Mr. Clarke noticed, also, as a further instance of the principle, that the work stored in velocity of emission from their outlets constitutes nearly the whole of the work done by such fans upon the air. For the current through them being very little hindered in its course by friction the momentary work stored in velocity of entry almost completely restores itself in the fan passages, and only that of the velocity of emission remains as power in the air required to be furnished by the fan. Its amount, as calculated by Mr. Clarke in four different trials (three recorded before, and one made by himself) on two blast fans of the Capell form, one 25 in., and the other 30 in. in diameter, was thus just 80 per cent. in each experiment of the work given to the pulley of the fan.—A. S. H.]

PALMER'S BRITISH AND COLONIAL MERCHANTS' REFERENCE BOOK.—Although there is little in this volume to justify the recommendation of it for interesting reading, any shortcoming in that respect is fully compensated by its unquestionable utility, since in connection with the despatch, receipt, and payment for telegrams, &c., the information given will be invaluable, and not unfrequently the amount saved in the transmission of a single message would considerably more than pay for the book. This is only the first edition of the British and Colonial Merchants' Reference Book; but that it has supplied a want is beyond doubt, since its predecessor, the Burgess' Guide, published last year in Spanish, for circulation in Mexico, Central and South America, was warmly appreciated in those countries, and the issue of the present edition in English, for the use of merchants and others in India and China, Australia and New Zealand, the United States and the West Indies, cannot fail to be equally useful. The work is admirably illustrated with coloured maps, and is altogether likely to command a permanent place among our commercial annuals.

MINING PROGRESS IN AUSTRIA AND HUNGARY.

The mining industry in these countries has greatly increased in extent and importance lately. This is mainly due to the activity which has existed in the railway enterprise of the countries. It has been proved that unquestionably the railway policy of the Government has been a success. The acquisition of the railways by the Government has had a very beneficial effect upon the trade of the country by checking intended raisings of tariffs that might be contemplated by competing railways. From a report by Consul-General Nathan on the trade and commerce of Austria-Hungary we learn that the yieldings of mining products in the whole of Austria Proper were in 1882 47,161,746 fls., the surplus being 2,468,054 fls., or 5·52 per cent., and those of the furnaces 28,908,095 fls., the surplus being 3,403,633 fls., or 13·35 per cent. as against 1881.

There were no furnace productions in Upper Austria, Bukovina, Vorarlberg, Dalmatia, and Istria, and no yieldings of mining products nor of furnaces in Trieste, Gorizia, and Gradiska. The total value in 1882 from both sources, after deducting the value of the smelted ores, were 65,435,693 fls., being more by 4,445,823 fls., or 7·64 per cent., in comparison to 1881. The iron industry was higher developed. The yieldings of iron ores were higher by 609,262 fls., and forged pig-iron and foundry pig-iron had even been increased by 3,491,000 fls., thus exceeding the surplus of all the other smelting products taken together. The yieldings of coal were also very favourable, having a considerable surplus value, although an increase of products was only in common coal, whereas Brown coal remained stationary.

In 1881 Brown coal showed a surplus production of 5,408,514 metric centners against 1880, and common coal of 4,536,848 metric centners; whereas in 1882 the surplus of the first-named product amounted only to 347,919 metric centners, and that of common coal to 2,156,863 metric centners. Of 240 establishments for iron ore only 70 (— 7) were at work in 1882, with 4826 men, 107 women, and 67 children; total, 5000 working people: 9,025,103 metric centners (+ 2,835,465, or 45·81 per cent.) iron ore, at a value of 2,397,464 fls. (+ 609,262, or 34·07 per cent.), were produced. There were in 1882 altogether 106 (— 7) establishments for manufacturing pig-iron, of which only 59 were really at work. Of 146 (— 6) 82 (+ 6) were working during a period of 3621 (+ 339) weeks. For this work were employed 9610 working people, consisting of 9121 men, 201 women, and 288 children.

The production amounted to 3,921,649 metric centners forge pig-iron (+ 543,212, or 16·7 per cent.), valued at 18,448,694 fls. (+ 3,490,825, or 23·34 per cent.), and 433,134 metric centners cast pig-iron (+ 15,172, or 3·36 per cent.), valued at 2,614,065 fls. (+ 485, or 0·02 per cent.); therefore, total is 4,354,783 metric centners pig-iron (+ 558,385, or 14·71 per cent.), valued at 21,062,759 fls. (+ 3,491,310 fls., or 19·86 per cent.).

The production of Brown coal in 1882 reached a quantity of 86,962,902 metric centners (+ 347,919, or 0·39 per cent.), at a value of 16,936,886 fls., or more by 917,379 fls., or 5·73 per cent., at an average price of 18·80 kr. (+ 0·96 per metric centner, and with a staff of working people of 27,249 men, 1791 women, and 382 children; total, 29,422 persons, more by 339, or 1·16 per cent. The production of common coal in 1882 amounted to 65,590,022 metric centners, more by 2,156,863 metric centners, or 3·40 per cent. The value was 21,440,815 fls. (+ 704,384, or 3·40 per cent.); the average price 32·69 kr.; 37,872 working people (+ 759, or 2·04 per cent.), i.e., 34,373 men, 2874 women, and 625 children were employed in this production. Bohemia is at the head of the list with 50·39 per cent. (— 3·48 per cent.) of the production, whilst Silesia follows with 29·85 per cent. (+ 2·27 per cent.), Moravia with 13·95 per cent. (+ 1·35 per cent.), Galicia with 5·21 per cent. (+ 0·12 per cent.), and Lower Austria with 0·68 per cent. (— 0·018 per cent.). Respecting the increase, Moravia was favoured with a surplus production of 1,461,639 metric centners, and Silesia with 2,087,430 metric centners, against which a decrease of 1,123,613 metric centners took place in Bohemia. As to coke, it is only known that in 1882 out of a quantity of 4,756,422 metric centners common coal, 2,716,666 metric centners coke, at a value of 2,100,081 fls., were produced, 57·12 per cent. being the average gain out of 100 per cent. coals. The average price was 77 kr. per metric centner, and the chief exports were made to Prussia, Russia, Roumania, and to Hungary.

In reviewing the development of the mines in 1882 we find that a falling-off of leased diggings took place. The registered leased diggings figured towards the close of the year with 27,793 diggings; there consequently was a decrease of 1881, or 6·34 per cent. In Moravia, Silesia, Styria, Galicia, and Dalmatia an increase took place, whereas in the other provinces there was a decrease. The number of persons engaged in private licensed diggings rose in the course of 1882 from 1231 to 1297, or 5·36 per cent. The leased mines were, in 1882, 168,524 hectares in extent, showing a decrease of 223 hectares, or 0·43 per cent. This decrease is attributable to a diminishing of governmental mines, whilst an increase was in property in the hands of private parties. A classification of the yield-

ings shows that coal takes a proportion of 79·67 per cent. of the whole mining area: 165,706 hectares are subterranean workings, and 2818 open mines, 6075 hectares of which are owned by Government, and 163,449 hectares by 1624 private parties.

For raising the coal and other minerals there were altogether 1046 steam-engines, equal to 43,725 horse-power. In addition to this 405 steam-engines, equal to 6458 horse-power, worked the ventilation of the mines, the preparation of the ores, &c., and these engines were also used for air-compressing and other purposes. Mining casualties terminating fatally were, compared to 1881, somewhat on the decrease. Of a total of 371 accidents 144 (— 23) terminated fatally, whereas 227 (+ 23) were of a lighter character. Of every 1000 workmen 1·8 met with fatal and 2·8 with serious casualties. Two women were seriously injured in a Brown coal pit. In foundries four fatal and four serious accidents occurred, six of which were in iron foundries and two in the mercury works, Idria.

FOREIGN MINING AND METALLURGY.

The condition of the French Iron Trade is still very unsatisfactory—the markets are a prey, in fact, to widespread and general depression. Transactions have been carried through with difficulty, and prices have been more and more depressed. At the same time, at the level to which prices have receded, no further important changes can be anticipated, as business has now reached the point at which an extinction of furnaces is not improbable. Even as matters now stand, the tendency of affairs is towards a reduction in production. In the Haute-Marne the rolling mills are only scantily occupied with work; the foundries are also poorly employed. The present rates for No. 2 iron in the Nord are 51. 4s. to 51. 8s. per ton. Some of the forges of the Nord have been selling iron at 51. 12s. per ton, free at Paris. This is equivalent to 41. 16s. per ton at the works. As an indication of the reduced prices current, we may state that the Eastern of France Railway Company has let a contract for fish-plates at 51. 11s. 2d. per ton delivered at Herson. The contract was secured by the Vezin-Aubouye Company. The general condition of the German iron trade has remained unchanged. Prices have shown continued weakness, and have left industrialists but scanty profits. There are general complaints of the feebleness of the foreign demand. Spiegel and Bessemer pig have shown a downward tendency.

The monotony which has so long characterised the Belgian Iron Trade has remained undisturbed this week by any interesting fact. There is still a continued want of important orders, the same stagnation in fact. Under these circumstances a reduction in production is beginning to be talked of more and more. A contract is about to be let for the supply of 70 passenger carriages and baggage vans for the Belgian State Railways. An adjudication is also about to take place for 1266 tons of accessory railway matériel. The imports of iron minerals into Belgium in the first nine months of this year are officially returned at 1,167,654 tons, as compared with 1,191,096 tons in the corresponding period of 1883. The exports of steel rails from Belgium in the first nine months of this year were officially returned at 48,816 tons, as compared with 54,161 tons in the corresponding period of 1883. Iron rails were exported from Belgium in the first 10 months of the year to the extent of 14,598 tons, as compared with 7523 tons in the corresponding period of 1883. Plates were exported from Belgium in the first nine months of this year to the extent of 30,965 tons, as compared with 34,524 tons in the corresponding period of 1883. The rather curious fact is observable that the exports of iron rails from Belgium have shown some increase this year. The profit realised by the Sclessin Company in the financial year ending June 30, 1884, is returned at 13,657.

The Belgian Coal Trade has presented few new points of interest. No material change has occurred in the general situation, household coal continuing in request, while coal for industrial purposes has remained neglected. The intelligence received from other districts is, of course, little calculated to induce hopes of an improvement in business. The demand for coal for the Belgian sugar works is less active than usual this year. The depression in industry is reflected in a decline in the number of trucks passing over the Belgian State Railways. In the week ending Nov. 2 the number of trucks carrying coal and coke which passed over the network was 17,653, as compared with 17,659 in the corresponding week of 1883; the difference is not material, but a heavy falling off was observable in the movement of trucks carrying general merchandise. The imports of coal into Belgium in the first nine months of this year were 893,219 tons, as compared with 919,772 tons in the corresponding period of 1883. The total representing this year's imports was made up as follows:—Germany, 295,629 tons; England, 197,208 tons; France, 65,421 tons; the Low Countries, 334,930 tons; and other countries, 31 tons. The exports of coal from Belgium in the first nine months of this year were 3,330,393 tons, as compared with 3,127,523 tons in the corresponding period of 1883. In these totals the exports to France figured for 3,136,343 tons and 2,913,638 tons respectively. No appreciable change has occurred in the German coal trade.

THE UTILISATION OF PHOSPHORIC SLAG.—In an article in Dingler's Journal, on Utilisation of Slag, Mr. A. FRANK recommends the application of magnesium chloride for the decomposition of slags containing sulphur and phosphorus. The fluid slag is run into a solution of about 1·06 specific gravity and agitated; the sulphides are decomposed with the evolution of hydrogen sulphide; so in basic slags uncombined lime produces calcium chloride and magnesia, which indirectly induces a concentration and more easy solubility of phosphates present. The magnesia thus produced can be removed by washing and settling. On heating in an oxidising flame the slag powder obtained with the still adhering magnesium chloride, or with a further addition of chloride a partial higher oxidation of the ferrous oxide and similar compounds results, the new compounds formed being less prejudicial to the manure obtained. Instead of beginning with fluid slag, solid slag finely ground can be heated with the magnesium chloride solution under high pressure. In place of magnesium and ammonium chlorides the sulphates can be used along with free hydrochloric acid. By a modification of Rocoar's process for working up phosphorised slags, described in Dingler's Polytechnisches Journal, the slag is melted in a cupola, whereby a matte is obtained containing from 20 to 25 per cent. of phosphorus. It is then mixed with powdered anhydrous SO_3Na_2 , and heated to redness. Most of the phosphorus is changed into sodium phosphate, whereas a portion of Fe and Mn is converted into phosphates, sulphides, and oxides. The mass is treated with water to recover sodium phosphate by crystallisation. The insoluble residue is mixed with Na_2SO_4 and charcoal, and heated in a reducing flame. The Na_2SO_4 is first converted into Na_2S , and then by double decomposition sodium phosphate and FeS and MnS are formed. The mass thus yields another crop of sodium phosphate crystals. The residue after roasting to destroy the sulphides can be used as an iron ore rich in Mn. The sodium phosphate is employed for artificial manure. Another method to work the phosphorised matte is to fuse it in a Bessemer converter with dolomite or lime. Alkali can be added to promote the fusing of the metal slag that is formed. Before the complete dephosphorisation the slag is decanted, and a fresh portion of lime added to obtain the dephosphorisation according to the basic process. The slag contains P_2O_5 and only little Fe and Mn. It is powdered and used either directly as manure or after treating with $\text{S}_2\text{O}_3\text{H}_2$ as superphosphate. The second method yields the P as a product of less marketable value, but as the metal has been converted into steel its value is said to make up the difference.

NEW SOUTH WALES TIN.—The export of fine tin from New South Wales in 1883 exceeded that of any previous year since the tin fields opened; but the export of tin ore is less than that of any previous year, which is an important fact, as evidencing the progress made in smelting tin ore. Taking ingots and ore together, the export as regards quantity exceeds that of any previous year.

IRON AND MANGANIFEROUS ORES.—Mr. E. S. FERGUSON (Cardiff, Nov. 12) writes—The iron ore market during the past week has continued in the same depressed condition, even the rumours that quarantine is to be reimposed having no effect on the market. Prices of Rubio ore are 11s. per ton c.i.f. Cardiff or Newport on usual basis of iron. Freight from Bilbao are 5s. to 5s. 3d. Pig-iron unchanged.

Meetings of Public Companies.

EAST CARADON MINE.

A special general meeting of shareholders was held at the offices of the Wheal Grenville Mining Company, Union-court, on Wednesday, Dr. BROWN in the chair.

Mr. C. R. NORTON (secretary) read the notice convening the meeting.

The agent's report was read by the SECRETARY, and was as follows:—In keeping with the instructions received at the last meeting I have since carefully examined and considered the prospects of the unwrought ground to the west of the north engine-shaft then referred to. I find it is over 200 fms. in length, with four lodes running through it that, I am informed, have scarcely had any trial west of the shaft, although undoubtedly the same lodes that were so productive further west in the earlier workings of South Caradon, and knowing that the eastern cross-course about which the southern lodes have proved so productive in that mine, continue their course through the untried portion of East Caradon, I fully endorse the opinion expressed by other agents, and particularly those more conversant with the limited trials yet made, that there is not a more promising piece of untried ground in the district, nor one which can be so economically proved as the engine-shaft had already been sunk with pumping and winding engines erected. I think the cost would be not more than £200, or £300, a month. In again referring to the old part of the mine I would remark that since the last meeting we have opened east and west on the south lode at the 150 about 6 fms. in the western drive; there is a slight improvement in the ground, and the lode is producing a little ore with much interest in the capels, but it is with regret that I have to say that in neither end is there anything to value.—W. GEORGE.

The CHAIRMAN, in the course of a few remarks, said that he hoped that some of the committee would present them with some account of the finances of the company, and of the condition of the mine, some definite statement as to the prospects before them. He trusted that it would not be necessary to discontinue mining. He was well aware that with the low price of metals it was hopeless to continue working, except on the richest lodes, and with the most rigid economy. He thought it would be a pity to abandon the mine, and the shareholders present seemed to be inclined to pay the necessary calls for the development of the untried ground referred to in the agent's report.

Mr. CHILDS said he was a member of the committee. It had been their painful duty to make calls from time to time, but now they felt that they could not go on doing so. Mr. Brown had not been to their quarterly meetings, but there they had had considerable pressure put upon them to discontinue working the mine. At the last meeting the report was such that they determined that the time had come to submit to the shareholders the state of affairs, and leave it in their hands as to whether the mine should be stopped or not. Therefore, it was that the meeting was called that day. They had also called in London because there were many shareholders who never went down to the meetings at Salisbury, and they wanted to have their opinion. There was one thing to be taken into consideration, they had never got into debt. The accounts had all been met by the calls, and all that was owing now was debts contracted since the quarterly meeting.

Mr. SCHOFIELD thought it was not the time of the year to begin operations, and thought it would be better to wait till the spring of the year.

Mr. GEORGE explained that they would have to clear the debt of water before they could do anything, and that would take some time.

The CHAIRMAN asked if any steps had been taken with regard to informing the directors of what they were thinking of doing, and would they (the lords) object to their abandoning the south part of the mine and working the north. The CHAIRMAN said that he should suggest that Captain George be instructed to go on clearing the debt, and that, before the next general meeting, they should have an independent agent's report, which should then be considered. He thought they started at a great advantage. The shaft was down 84 fms., and the pitwork was all fixed, and he advised them to carry on the mine for a time.

Mr. SCHOFIELD: How many shares are here represented?—Mr. NORTON: 2083. Mr. SCHOFIELD: How many shares are there?—Mr. NORTON: 5053, relinquished shares deducted. In reply to a question, Capt. GEORGE stated that he proposed to stop all work at the lower part of the mine. Mr. SCHOFIELD then moved:—"That the report of the agent having been read and considered it was resolved that in the opinion of this meeting, representing more than one-third of the existing shares in the company, it is desirable that operations be discontinued in the southern part of the mine, but that the northern part be prosecuted as advised in the agent's report, and that the matter be left in the hands of the committee till next quarterly meeting. This meeting also considers that the opinion of some independent agent as to the working of the northern ground should be obtained and submitted to the next general meeting."

Mr. COOPER seconded the motion, which was carried unanimously. A vote of thanks to the Chairman brought the meeting to a close.

POLCREBO TIN MINE.

A general meeting of shareholders was held at the offices of the company, Great Winchester-street, on Tuesday.

Mr. W. MOLESWORTH ST. AUBYN, M.P., in the chair.

Mr. WILLIAM BATTYE (the secretary), read the notice calling the meeting.

The CHAIRMAN said that since the last general meeting, which was held on Aug. 13, he had spent a considerable portion of his time in the neighbourhood of Helston, and had visited the mine several times. At the last meeting of the committee he laid before them certain facts relative to the position and management of the mine; and as it was impossible that Capt. Martin should be always at the mine, he suggested that a sub-agent should be appointed in order that more complete supervision should be exercised over them, and the time at which they went to and left work. Therefore, the committee had appointed as sub-agent, at a very moderate salary, Capt. John Richards, who was well known to Mr. Battye, and he had no doubt that appointment would meet with the approval of the shareholders. As regarded the mine itself, he was present when the boiler was delivered; when it was put into its place; and also on various other occasions of seeing how the machinery was put into its place. Yesterday Capt. Martin had written a letter, which was received by Mr. Battye this morning, which was as follows:—"This morning I started for Helston, and the engine went to work admirably and splendidly, and undoubtedly will give satisfaction to the shareholders. The sound of the stamps is very cheering, and I think the returns will give satisfaction to the shareholders." There was also a report from Capt. Prisk, which Mr. Battye would read later on. Referring to the unsatisfactory price of tin, the Chairman drew attention to the depressing effect which the low price had had on the tin mining industry of Cornwall. He said he believed that tin was stiffening, and he certainly thought it could not keep in the position it was now in, and in all probability, it must go up. But even with tin at the present price the shareholders in this mine need not have any occasion to regret having put their money into it. The tin was of exceedingly good quality, and he hoped that by the time they met again the company would be in a very much better position than it was now. Speaking personally, he still had the greatest faith in the mine, and he intended to stick to it, and he believed that in the end all the shareholders would be amply repaid.

Mr. BATTYE said the sales of tin during the past three months had amounted to 700 tons, but the committee had restricted the output of tin till the stamps were put to work. The tin which had been sold had been contributed by the tributors. There was now a balance in hand of 141, 19s. 3d.

The CHAIRMAN moved that the accounts be received and adopted.—Mr. STAFFORD seconded the motion, which was put and carried.

Mr. BATTYE then read the following quarterly report from Capt. Martin:—

Nov. 8.—I beg to send you my report of the prospects and general work during the last quarter:—Highburrow shaft has been completed to the 50 fm. level, and a 4-in. drawing-lift fixed from the 50 to the 55 fm. level, with ladders, stays, &c., and a pit at east of the shaft. We have also extended west 5 fms. 3 ft.; the lode is 1 ft. wide. Here we have a soft patch of granite; in soft granite the lode is generally small and unproductive. However, the lode and granite are showing signs of an shortly getting out of this patch. Driving by four men, at 12, 15s. per fathom. The 50 fm. level east is extended 7 fms. in this drive; the lode has gradually improved in size and also for tin. The lode is 4 to 5 ft. wide, and presents the best indications that I have seen in the mine for future permanency; and it is in this direction that we may reasonably expect a run of ore ground towards the slide, which is dipping rapidly towards Highburrow shaft. Driving by six men, at 42, per fathom. The 40 east is extended from shaft 51 fms.; the last two months' drive is on the south course for speed. The tin-bearing course is standing north of the level, and we are anxiously pushing on this end to strike the junction and slide which have been previously reported as being one of the principal points in the mine. Driving by six men, at 44, per fathom. The 40 west is extended 43 fathoms. In the last four weeks we have driven through the cross-course, and the lode in the present end is getting better defined as we get out of the influence of the cross-course, and it is showing more tin. Here we expect to meet with a good run of ore ground going towards the old engine-shaft. Driving by four men, at 34, per fathom. In the 30 fm. levels east and west we have sunk winzes and communicated with the 40, which has given good ventilation and opened the ore ground for stoping, which can be started at any hour when the stamps require the tinstuff. In the back of the 20 east, north-west level, we set to rise by four men, at 61, per fathom in a splendid lode. In the back of the 30 west we set to rise by four men, at 41, per fathom. The above points are to open the ground for tribute or stoping, which will be set in a few days.—Tribute: Pitch in bottom of the 17, west of winze, by four men, at 13s. 4d. in 12. Pitch in back of the 17, east of Highburrow shaft, by four men, at 13s. 4d. in 12.—Surface: Since the general meeting, held on Aug. 12 last, extensive operations have been carried on. The loading for the horizontal engine to work on has been built of heavy blocks of granite. The loading for the winding-cable and stamps axle stools to bear on has also been built with granite. The boiler-house for the reception of an 11 ton boiler has been completed and covered with galvanised roofing, and the boiler fixed with all necessary furniture. The engine-house is also covered with galvanised roofing. The 20-in. horizontal engine, with heavy gear and 18 head-stamps axle, has been erected, and two 30 ft. diameter round bidders, with 7 ft. centre-heads, are nearly completed.

On Monday we purpose to start the engine and stamps. It must be borne in mind that the heavy cost of the machinery and erections is plant added to the property. Our next cost-sheet will be heavy, and the following cost-sheets will be about £250 per month. As promised, the first sale of tin will be about 4 tons, and the quantity will then go on increasing. In conclusion, I have much pleasure in stating that I never saw the prospects underground looking brighter for the future than they were this morning.—W. H. MARTIN.

Nov. 10.—This morning I am proud to say we started the engine and stamps. The engine went to work admirably; it is a splendid engine, and undoubtedly will give satisfaction to the shareholders; the sound of the stamps is very cheering, and I feel confident that the returns will be satisfactory.—W. H. MARTIN.

Mr. BATTYE next read the following report from Capt. Prisk:—

Nov. 8.—Highburrow Shaft: This shaft is sunk to the 50 below adit, cased and divided, pit cut, and the driving commenced east and west on the course of the lode. The 50 is driven west of the said shaft about 5 fms.; the lode for this distance is rather small, but as the end advances you will be getting under the rich tin ground driven through in the level above, and as the ground is easy for working you may shortly look forward to an improvement in this level. The 50 is driven east of shaft about 5 fms., in a lode 4 1/2 ft. wide, worth fully 15s. per fathom. In my report on this property made in February last, I stated that tin had made its appearance in the shaft at the 40. I am now pleased to report 50, above referred to, the 40 to the 50 lode has gradually improved, and your interest for the future prosperity of the mine. The 40 is driven east about 5 fms. through tin ground, some of which is very valuable, and can be worked at a good profit. A rise has been communicated in this level with the 30, which has given good ventilation, and laid open a valuable section of tin ground for stoping. The present value of the lode east and west of the rise is 15s. per fm. The 40 has been driven west of shaft about 42 fms., and has opened up some tin ground. A rise has also been communicated with the 30, and has laid open two good tin stoping grounds, which are now available for working as soon as required for the shaft. The 30 is extended east of shaft about 60 fms., and a great portion of the drive has been through a lode varying in value from 15s. to 20s. per fathom. In the back of this level a rise is now being worked, which is up 3 fms.; the lode here is about 5 ft. wide, worth 18s. per fathom. I may here remark that this rise is going up in whole ground, and no doubt the tin will be found to last up to within a few fathoms of the surface, which is something like 45 fms. above this level, and I am of opinion that the back all will very nearly enable you to meet your labour cost. The 30 is driven a considerable distance west of shaft, and a communication with the engine-shaft is effected, a great portion of this drive has been through profitable tin ground, which is now ready for stoping.—Surface Operations: A 20 in. horizontal engine for stamping and winding is erected, and 18 heads of stamps are nearly ready to work, all of which are of the most modern construction, and I may add economy has been strictly adhered to in all the works underground and at surface. The bidders for dressing the tin are in a forward state, and in a short time you will be in a position to make monthly sales of tin. The prospects throughout the mine are very good, and far exceed any new mine that has been opened in the district for many years, and as soon as your dressing-floors are complete I consider your returns will be sufficient to meet the whole expenditure with the present low price of tin.—JOSEPH PRISK.

A SHAREHOLDER said he had gone carefully into the figures, and taking only Capt. Prisk's valuation, he estimated that, at the present time, they ought to have at least 25,000, or 30,000, worth of ore discovered in the mine. The various levels were being driven at an average cost of 4s. per fathom, whereas the lowest value put upon any one point was 15s. per fathom. He alluded to the large works of a permanent character which had been done in the mine, and on the surface, all of which had been paid for. Looking at all the circumstances he thought the shareholders should be fully satisfied with the position and prospects of the mine. For himself, he fully believed in the prospects, and was confident that they would have a permanent dividend-paying property.

The CHAIRMAN said he fully endorsed all the previous speaker had said. Putting aside any personal matter as connected with the district, he as a man of common sense, should not hold shares unless he believed in the mine. He proposed that the two reports of the agents be adopted, and together with the accounts, be printed and circulated amongst the shareholders.—A SHAREHOLDER seconded the motion, which was put and carried.

Mr. BATTYE said he had gone carefully into the accounts, and found that a call of 1s. per share would be necessary to meet all the wants of the mine for the next three months. He hoped and believed that it was the last time they would have to make a 1s. call.

A call of 1s. per share was then made, payable on or before Nov. 21. A resolution was then passed authorising the directors to forfeit, within 14 days from the present date, all shares in arrear of call. It was stated that this was a mere formal resolution, inasmuch as there were only 15 shares in arrear of call, and no doubt this small amount would be paid on receipt of a notice from the secretary.

The CHAIRMAN was then re-elected, with Mr. St. Aubyn as Chairman, and a cordial vote of thanks having been passed to the Chairman and committee the meeting broke-up.

AKANKOO GOLD MINING COMPANY.

An extraordinary general meeting of shareholders was held at the Cannon-street Hotel, on Oct. 8.

Mr. GEORGE CAVENTISH TAYLOR in the chair.

Mr. LONG (the secretary) read the notice convening the meeting.

The CHAIRMAN then referred to the circulars which had been issued by Mr. Grant, and said he wished to make a few remarks with regard to them, because there were some inaccuracies in them, unintentional no doubt; but which made it necessary for the directors to vindicate their policy. He would take their own circular first. He had often had conversations with Mr. Grant on the subject of the mine, and he had always told him that their existing capital was not enough, and that sooner or later they would want more. It could not be any surprise to him, therefore, that they were now in the position in which they were. The managers had made a selection of ore Mr. Louis tells plainly that you cannot determine the value of the ore except by crushing. With regard to Mr. Lane's great fault of being too sanguine, referred to in paragraph 9, he would ask them to remember what the Chairman of the Sierra Buttes Mines recently said—"A man is not fit to have anything to do with mines if he is not of a cheerful and sanguine temperament." Then the Chairman referred to Mr. Grant's circular. Mr. Grant took exception to the policy of the board and to the machinery. The directors were right in their policy, and the machinery was not the fault of the directors. What was wanted was more boiler power and more sheds. Mr. Lane (who is present as a shareholder) will tell you that these boilers were not ordered at his instigation at all, he was told by Mr. Wyatt and Mr. McCarthy that larger boilers could not be got over the bar. In paragraph 13 they were told that they (the board) ought to have taken alarm long ago. They did take alarm, therefore, it was that they told Mr. Grant the capital would be insufficient. (They were led by Mr. Lane to expect the crushing to take place earlier than it did, and they thought that the board had been misled by Mr. Lane, and had been paying the way. They had expected to see the ton of ore and were astonished and surprised to get only 7 dwts. Mr. Grant said the only way to put the mine in a proper position was to place practical men at the head of affairs. He hoped they would have practical men at the head of affairs, but if they carried out Mr. Grant's policy they would not be practical. If they do not find more money the thing will collapse. Mr. Grant said that with the most rigid economy the expenses can be reduced to 700s. a month, but in three months your money will be gone. They had some gold coming home, but it was not in the position to face the position. He would ask them how they were to carry on with the present funds. It was bad policy to change horses while they were crossing a stream. He did not want them, however, to think that he was advocating his own cause. He had told Mr. Grant three months ago that his own affairs would not allow him to remain on the board. He had been asked by Mr. Grant to remain, but he had refused. He had intended to retire soon. What he objected to was the word "removed." The difficulty would be not to remove him, but to keep him. They would propose the first resolution, and by it they would either stay or go.

Mr. RAIKES said he had a very unpleasant duty to perform to call attention to the behaviour of one of his colleagues. He trusted, however, that this would not make him flinch from performing his duty. He had to move that Mr. Wyatt be removed from being a director of the company. It was impossible for them to sit on the board with Mr. Wyatt. Mr. Grant had referred to the company and its administration in the way the country was governed, and in that light he would now look upon it. The directors were as it were a cabinet, and they had passed in the board room should be retained in the board room, but they found that the shareholders knew almost without exception everything that was done there. It was impossible to keep anything to themselves. That was unfair to the general body of shareholders. One thing he would say was no shareholder had received any private information from him. Referring to the commencement of the company he said he was the youngest of the directors, and he was only a shareholder when the company was first started. He was induced to subscribe for his share by what he saw in the prospectus. That prospectus was couched for by Mr. Wyatt, and it stated that "even by the primitive method employed by the natives immense quantities of gold had been extracted for centuries past." But what did they find? They had heard that the natives rarely got down more than 30 ft., and so they attacked the reef at the lowest possible point without going below water level, and they might have a solid wall of quartz above them of 50 feet, but they found that the natives had got down there and had taken away the best quartz. Whose fault was that? Was it theirs? Had they been on the coast? He then came to another question, a very grave one—the purchase of the mine. They paid 50,000s. for the mine, and partly in money. Mr. Wyatt was the agent for the vendors; he knew the laws and customs of the country; they did not know those laws. Well, after a time a dispute arose as to the title of the vendor to the property, and whether he had any right to sell it. Mr. Lane finding there was an adverse claim bought it for the company. A few months ago Mr. Wyatt came and asked leave to go to the coast on his own business. He did not know all he did out there, but this he did know that he was engaged in trying to re-establish the title of the original vendor. That in itself, surely, was not in the interests of the company, but of the vendor. When he came home he said nothing about it; he made no complaint of what was being done at the mine—expressed no dissatisfaction at all. He was aware of the state of their finances, and yet, although he had not been at a board meeting for five months, he drew his fees. Of course he had a perfect right, legally, to do so; but was that the sort of person in whom they could place confidence? He had only to refer to the vacillation he had shown. So long as things were quiet there was not a single word of complaint, and he concurred in their report; but direct there was any opposition he then went to a meeting to which they were not called, and signed the requisition for the present meeting. It was essential to have more money, which showed that the original statement was wrong. He thought, however, that the prospects of the mine were good so long as it was not financed. He advised them that whatever the issue of that day was that they would not raise money outside, but by means of preference shares issued *pro rata* to the shareholders. He found, so far as he himself was concerned, that the duties of his office were most irksome, and he attended them at great personal inconvenience. He did not consider it his duty to put his tail between his legs and run away because the lion roared; after all, it might turn out to be only a jackass baying. Speaking of the gentlemen proposed to form the new board, he thought it undesirable to have a gentleman like Mr. Wise, who was connected with the Stock Exchange, who he considered could not do his duty to his clients and to the shareholders also; in fact, taking them altogether, they were not gentlemen in whom he would have any confidence.

Col. ARBUTHNOT, after warning them of the dangerous step they were going to take, proceeded to say that they had great cause of complaint against Mr. Grant's action. He was unwise in not consulting the directors and supporting them. He had poisoned the minds of the shareholders by his circulars, in which he accused them not of dishonesty, but of incompetency; but those circulars were full of inaccuracies. There was not one little of evidence to show that the mine had not been opened up in a most business-like manner. He denied that the directors had ever written anything discouraging concerning the mine. Talking of Mr. Grant, he thought he was a most unpractical man. It would never be said of him (the speaker) that he had not done his duty in warning them of the danger they were running into.

Mr. WYATT, who remarked that Mr. RAIKES had shown great personal animosity to him in his speech, said that the first charge brought against him was that of giving private information. If any shareholder came to him all he had done was to give a point blank answer. There had been a great deal of secrecy both on the board and at the mine, but why should there be if the thing was well conducted? He then quoted Mr. Lane's report two years after the prospectus was issued, in support of the statement then made, and also of Mr. Cornish, who subsequently went out and blasted into the solid rock, and brought home quartz which assayed 1 oz. per ton. In connection with the title Mr. RAIKES had imputed fraud, which was untrue, and he knew it and ought to be ashamed of himself for saying so. He was not a vendor, but was in a certain sense associated with the vendor. He got something out of it it was true, but he had put 1500s. in cash into the mine. With regard to the title, it was perfectly correct, the title was first obtained, it was to make things doubly sure he had, when recently on the coast, obtained documentary evidence from the chiefs that it was right, and that the title Mr. Lane had bought was false. With regard to his fees, he told the directors that if they drew their fees he should draw his also. The quality of the work done at the mine was good, but it had been laid out badly from the beginning. In Jan. 15, 1883, he had expressed dissatisfaction at the way the work was being carried on, and pointed out the paramount importance of the proper laying out of the mine, and advised that another adit should be driven. Later he advised that Mr. Lane should be dismissed, but all this was negative. The directors never understood the point at issue. Mr. Lane came home in July, when it was his duty to remain and help Mr. Louis, as it was a very critical time. Mr. Lane attributed the boiler failure to the want of proper fuel, but he (the speaker) had seen that fuel used for boilers, for steam launches, and in furnaces made for coal only, and it answered very well. There was fuel, and plenty of it, there. As to his election or non-election, he left it entirely in the hands of the shareholders.

Mr. CHARLES GRANT said that, as one of the original promoters, he felt to a certain extent responsible to the public, and, therefore, felt bound to take action, and do what he could to restore the company, which had been badly handled. It was easy to see that the directors did not constitute a very happy family; in fact, he had never seen a more disunited board. He would remind them of the familiar adage "a house divided against itself cannot stand," and that was the case with the board. They did not pull together, but allowed personal feeling to influence them. The directors ought to have taken alarm before. On Aug. 22, 1883, they were advised from the Coast—"We shall soon be able to make a shipment either the early part of next year (1884) or before." They had 13,800s. in November last, and had the shipments commenced they would have had enough; but they had not, and little by little that money had dwindled down to 3000s. or 4000s. Now, with regard to the question of title. They had a serious complaint against Mr. Lane. When he arrived at the Coast he saw the value of the mine and tried to steal it from the company. He goes about to set up a counter claim in the minds of the natives, saying, in effect—"You make up the title, then I will purchase for myself from you, out the present owners, and then I will pay you for this. Then he wrote to the directors—"Do not alarm yourselves, but your title is bad; I have purchased the property for myself; but, in the fulness of my good nature, I will allow you to remain upon your property. Was that the conduct of an officer of the company. When he (Mr. Grant) knew that Mr. Wyatt was going to the Coast he said you had better make enquiries, which he did, and obtained a declaration from the chiefs to the effect that the first title was the true one, and not the second. He had always believed Mr. Wyatt to be a truthful man, and he had not lost confidence in him.

After some further discussion, the CHAIRMAN put the motion "that Mr. Wyatt be removed from being a director of the company," which was lost on a show of hands.

The CHAIRMAN then said that the resignation of the other directors was in the hands of the meeting, and the following directors were elected.—Mr. C. J. Harvey, Mr. Wise, Mr. M. Grant, and C. I. Champion.

A vote of thanks to the Chairman terminated the proceedings.

LAKE SUPERIOR NATIVE COPPER COMPANY.

An extraordinary general meeting of shareholders was held at the Cannon-street Hotel on Thursday.

Mr. W. FRASER RAE in the chair.

Mr. DANIEL NORRIS (the secretary) read the notice convening the meeting, which was to consider the present position of the company's affairs, and, if approved of, to pass the following resolutions, either with or without any modifications:—

- 1.—That the Lake Superior Native Copper Company (Limited), be wound-up voluntarily.
- 2.—That a contract be entered into with a trustee, who shall be authorised to take such steps and make such payments as may be necessary out of the funds of the company for the formation of a new company, on the following basis:—The total capital of such new company to be 180,000s., divided into shares of 1s. each, of which 120,000 shall be ordinary shares, and 60,000 shall be considered as half paid-up and shall be preference shares, bearing a preference dividend of 6 per cent. per annum, contingent upon and payable out of the profits of each year. Out of the 120,000 ordinary shares 103,482 shall be allotted as fully paid-up shares to the liquidator or liquidators of the old company for distribution rateably amongst the ordinary and deferred shareholders of that company. And the new company shall be composed of every holder of ordinary shares therein who shall subscribe for any preference share or shares therein shall for each preference share subscribed for by him have two of his ordinary shares converted into two ordinary A shares. The profits each year shall be divided as follows:—1. In payment of 6 per cent. on the preference shares.—2. Of 6 per cent. on the ordinary A shares.—3. Of 6 per cent. on the ordinary shares, and all surplus shall be divided equally amongst all the shares, whether preference, ordinary A, or ordinary B, and the three classes of shares shall rank as regards capital in the same priority as they rank in regard to the payment of the 6 per cent. dividend. It shall be lawful for the new company to allot to any holder of mortgage debentures of the old company, who may be willing to accept the same, two fully-paid preference shares, and one fully-paid ordinary A share, in exchange for every 1s. of his or her mortgage debentures. All shares in the new company which shall not be taken up under the aforesaid arrangement shall be offered, in the first instance, *pro rata*, or otherwise, to the shareholders in the new company, and if any not so taken up may be subsequently dealt with at the discretion of the directors.
- 3.—That the assets, debts, and liabilities of the old company shall be taken over by the new company.

The CHAIRMAN said that he would not make any remarks at present; what he had to say he would say after the first resolution had been put to the meeting, because his remarks would bear upon the resolutions to follow; he would, therefore, at present simply move "That the Lake Superior Native Copper Company be wound-up voluntarily."

Mr. STEVENS said before they proceeded with that resolution he should like to make a few remarks. He was acting as trustee for the mortgagees. He held in his hand a letter from Messrs. Smith, Smith, and Bae, the solicitors of the company, to Mr. Snellish, who had been retained for the trustees, in which they expressed great doubt as to the efficacy of the chattel mortgage. The description of the goods and chattels was altogether incomplete and unsatisfactory, and it would be necessary to obtain a fresh and correct inventory. That would undoubtedly cause delay, but it was the fault of their agents. Reconstruction of the company meant liquidation, and their position was this—that if liquidation ensued the local creditors would have a lien on the property. What they wanted was that before liquidation took place there should be no change of any lien upon the property secured to the mortgagees. Upon these grounds he opposed the resolution; he felt bound to interfere, and to protect the interests of the bondholders, and he warned the directors that if they proceeded to the liquidation of the company, which this resolution involved, after his warning, verified by the letter of their own solicitor, they (the directors) would become personally liable for the whole of the bondholders' claims.

The CHAIRMAN explained that he was quite in the hands of the meeting; the directors had no wish to press the resolution, they simply left it with the shareholders, therefore, whatever was done, it could not be said that they (the directors) were personally responsible.

Mr. H. C. STEWART remarked that they should manifest some little reserve before taking the important step proposed. He thought they ought to pause and examine the statements made by Mr. Stevens. He lamented very much the position they were now in, and he thought that the history of the company was at variance with common sense. He thought the gentlemen on the board were very respectable, but they had shown great lack of business aptitude. They had not a single man on the other side had courage to tell them the truth whether there was any copper in the mine or not. It was strange that the board had not been able to find a single servant who was truthful, and upon whose reports they could rely.

The CHAIRMAN pointed out that the resolution might be put and carried, but it would have to be confirmed by a meeting to be subsequently held.

Mr. STEVENS pointed out that there was this difference between the present and a confirmatory meeting—at the present meeting a majority of three-fourths was necessary to carry the resolution, but a bare majority only at the latter. In reply to a shareholder he stated that although he represented the bondholders he was a large shareholder himself.

Mr. PONTIFEX stated that they as directors were only working in the interests of the shareholders and bondholders generally; what they wanted was that the mortgagees should be protected, and that the circumstances under which they had subscribed to the company should be fully carried out, personally he desired to do his duty towards them.

Mr. BLADON suggested that a liquidator be appointed. He thought it might be added to the resolution, and he would suggest that his remuneration be 100s., the smallest sum he had ever heard of being offered under similar circumstances.

A SHAREHOLDER thought it advisable to have two liquidators.

Mr. BLADON: That would only add to the expense, and it was desirable to keep down the expenses as much as possible.

The CHAIRMAN thought they might leave the appointment of a liquidator to the confirmatory meeting.

Mr. BLADON thought they might settle it at once; they knew what a confirmatory meeting was, they would possibly only get three or four there, he did not think he would be there himself.

The CHAIRMAN, having consulted with the solicitor, stated that the opinion of the board was that the resolution be not put to the meeting. That would leave them in the same position that they were in at the last meeting. He thought they must close the mine, and discharge the hands at once. He referred to the physical difficulties of getting to the mine; access was now prac-

Mr. Low said he thought that, in regard to that matter, the shareholders might safely leave themselves in the hands of the directors.

Mr. WARD asked whether the same conditions which brought about the improved condition of things in Mysore also existed in Ooregum?—Mr. Low: The large accession of value in Mysore arises from the fact that they are returning gold in large quantities, which, I hope, we shall do.

The resolution was then put and carried unanimously, and a vote of thanks having been passed to Mr. Low, the meeting broke up.

SCHWABS GULLY.—At the meeting held Oct. 15 (Mr. A. McGregor in the chair) the accounts, showing a profit of 14,021l. 2s. 11d., and the directors' report, were adopted, and a dividend declared at the rate of 4 per cent. The report stated that during the quarter ended Sept. 30 the diamonds found amounted to 10,280½ carats, which realised 12,448l. 10s., including 1724½ carats fine sand diamonds. The proceeds per load will be found to have been 946 carat, realising 2s. 10½d. per load, or 2s. 3½d. per carat all round. After deducting 1724½ carats fine sand diamonds at 8s. 6d. per carat the average realised would be 27s. 4½d. The lumps washed realised 7s. 8d. per load. Hauling was carried on for 61 days and 24 nights; 19,492 loads red and stones were hauled during the quarter. Washing operations could only be carried on for 60 days (47 days in washing blue and 13 days in washing lumps). The directors considered it advisable to stop washing for three weeks, owing to the blue ground on the floors not having been sufficiently pulverised. As the warm weather is approaching the directors expect that it will pulverise fast enough to allow them to continue washing steadily.

WHEAL BASSET.—At the six-monthly meeting on Nov. 6 (Mr. W. McKean presiding), the accounts showing debits 7840l., against credits 5802l., a working loss of 2037l., were passed. This increased the balance against the mine to 2575l., and a call of 8s. per share was made. The agent's report, after attributing this state of things to the low price of tin, went on to say that the prospects were never better than at present, seeing the greatly improved character of their lode by extending it to the western ground, and the probability of reaching before the next meeting the junction of the lodes for which the mine was started. The merchants' bills were heavy in consequence of the erection of a new pump and other machinery. The Chairman remarked that they had already called up 43,622l. The calls had been well responded to, and he considered that they might congratulate themselves they were not in a very bad position. Their returns had been gradually increasing in quantity. The return for the past month was 23 tons, and the average for the six months ended May 19 tons, and for the six months just past 20 tons 12 cwt. He was sure that they would join in expressing their gratitude to Mr. Basset for not insisting on the payment of the dues.

SOUTH DEVON UNITED COPPER.—At the meeting to be held next week the resolutions passed at the meeting, Oct. 30, for the winding-up of the company and its reconstitution will be submitted for confirmation. The new company will be registered as the "South Devon Mines."

BEDFORD UNITED.—The directors' report and statement of accounts prepared for the forthcoming meeting have been issued to the shareholders. The account shows—mines cost for seven months 2989½. 5s. 2d.; merchants' bills, 688½. l.; royalty, 262½. 12s. 7d. The copper sold for six months realised 356½. 15s. 6d., and muncie, 676½. 7s. The directors, in their report, state that it has been necessary to charge seven months' costs against six months' returns of copper and muncie; but, notwithstanding that a profit of 285½. 14s. 1d. had been made, which, with the balance from last meeting, makes the sum of 633½. 15s. 9d. at the disposal of the shareholders. The directors feel a difficulty in advising what should be done with this sum, owing to the unsettled state of the market, they, therefore, leave the question of a dividend to the shareholders. There is a fair chance of the returns of ore and muncie being sustained. The machinery is in good working order, and no increase in the monthly expenditure is expected.

PORTABLE MINING STORAGE BATTERY.—At the last meeting of the Engineers' Club of Philadelphia, Mr. C. Henry Roney showed a portable storage battery for mining and exploring purposes, with small incandescent lamps [illustrating his remarks with blackboard sketches]. The battery shown was a modification of Planté's, devised by Dr. E. T. Starr, of Philadelphia, the electrodes consisting of V-shaped plates of sheet lead arranged over each other, the convexity downward, with a slight interval between them, their ends (being) attached to a lead frame by "burned" joints, the interstices between the plates being filled with finely divided metallic lead, exposing a large surface to oxidation and reduction when subjected to dynamic electric or voltaic energy, and, in turn, giving off a large percentage of the "stored" energy to incandescent lamps placed in the circuit. The battery shown measured 3½ in. long, 2½ in. high, and ¾ in. thick, and would maintain a small two-candle incandescent lamp at incandescence for about one hour. A battery sufficiently large to run an eight-candle lamp for 10 or 12 hours would (consequently) not be too large or heavy to carry conveniently for mine or other underground exploration.—*New York Engineering and Mining Journal*.

[This paragraph has been reprinted, with the mere verbal alterations indicated, by the Editor of "Iron," and forwarded to us to be credited to that periodical upon reproduction in the *Mining Journal*. We have before noticed the systematic unfairness of the Editor of Iron in sending other writers' productions for quotation as his own, and would suggest that the only remedy for his meanness is for every other editor to avoid giving his periodical credit even should there at any time be anything original worth extracting. In this case the originality of the Editor of Iron consists in omitting the words between brackets, inserting those between parentheses, and varying those in italics.—Ed. M. J.]

GAS SHARES.—The principal business in these shares, according to this evening's report of Messrs. W. L. WEBB and Co., of the Stock Exchange and Finch-lane, has been—Bombay (Limited), 6½% to 6%; Buenos Ayres, New (Limited), 12 to 12½; ditto, 6 per cent. Debentures, 1898, 10½; Continental Union (Limited) Original, 38; ditto, New, 1869 and 1872, 26½ to 27½; ditto, 7 per cent. Preference, 31 to 31½; Gas Light and Coke, A. Ordinary, 2¼ to 2½; ditto, C. D. and G., 10 per cent. Preference, 23½ to 23¾; ditto B. 5 per cent. Preference, 18½; ditto, G. 7½ per cent. Preference, 16½; ditto, H. 7 per cent. Maximum, 15¼ to 15½; ditto, J. 10 per cent. Preference, 23¼ to 23½; Imperial Continental, 203 to 203½; Metropolitan of Melbourne, 5 per cent. Debentures, 1908, 102½ to 103; Monte Video (Limited), 17½ to 17½; Oriental Limited, 8½ to 8½; Para (Limited), 5; Rio de Janeiro (Limited), 21¼ to 22½; South Atlantic Marine, A, 262; ditto, B, 210 to 213; ditto, Perpetual 5 per cent. Debenture Stock, 120. The London companies show signs of improvement after their late heavy fall. Foreign companies rather easier.

INSURANCE SHARES. have, according to this evening's report of Messrs. W. L. WEBB and Co., of the Stock Exchange and Finch-lane, been as follows:—City of London Fire (Limited), ½ to 1; ditto Marine Insurance Corporation (Limited), ¾; Commercial Union, 15 to 16½; Crown Life, 68; Eagle, 6½ to 6½; Employers' Liability Assurance Corporation (Limited), 1¼ to 2; Fire Insurance Association (Limited), 1; Globe Marine, 1; Imperial Fire, 152 to 152½; Indemnity Marine, 14½ to 14½; Law Fire, 16½ to 16½; London, 5½; London and Provincial Marine (Limited), 3½ to 4; North British and Mercantile, 27; Ocean Marine (Limited), 5½; Rock Life, 6½ to 6½; Royal Exchange, 400; Royal Insurance, 26½; Thames and Mersey Marine (Limited), 10½; Universal Life, 40½ to 40½; ditto Marine, 7½ to 7½. No special change.

BRITISH MINES.

[The following were unavoidably omitted from their usual place.]

GAULTON COPPER.—George Rowe, Nov. 10: There is no change to report in the value of the different points throughout the mine within the past week.

WHEAT GRENVILLE.—T. Hodge, Nov. 12: I have no change here to report this week, all works are going on regular.

OWEN VEAN AND TREGURTHA DOWNS.—William Derry, Henry Prin, Werrant James, Nov. 13: We find in driving on the south lode at the 67 that it fully maintains its productiveness, and the result of stamping the stuff from this drive is quite equal to the assay of 121 lbs. to the ton reported last week. Our stopes and ends generally in the lower levels produce excellent quality tin-stuff. All our machinery is in good order and working well.

SOUTH ORENDORP.—W. Rich, W. Williams, H. King, Nov. 12: The stope in the back of the 30, west of engine shaft, is worth 84. per fathom. The 33 end west yields low quality tinstone. The 40 end east is worth 61. per fathom. The stope in back of this level is worth 12½. per fathom. The 50 end, east of King's shaft, is worth 10½. per fathom. Two stopes in the back of this level are worth 10½. and 12½. per fathom respectively. The 60 end is worth 6½. per fathom, and looks promising to improve. The stope in the back of this level is worth 8½. per fathom. The 70 end east is worth 10½. per fathom. The stope in the back is worth 12½. per fathom. The 80 end east is unproductive. The stope in the back is worth 8½. per fathom. The 90 end east is worth 10½. per fathom. The 93 end is worth 10½. per fathom. There is a large, speedy lode in the 93 end, west of Marshall's shaft; but it carries little or no tin to value. The 68 end west is worth 6½. per fathom. The 54 end west is worth 8½. per fathom.

WEST GODOLPHIN.—T. Hodge, F. Hodge, Nov. 12: The lode in the 92 north-west produces occasional stones of tin. The same remark will apply to the 92 south-east; the lode here is disordered about the cross-course, but is gradually coming together, and we expect an improvement shortly.—Pink Lode: The 60 end is worth 7½. per fathom. The 63 end is worth 10½. per fathom. The 70 end is worth 7½. per fathom. The stope in back of the 73 is worth 10½. per fathom. The 50 west is again improved since passing the cross lode, now worth 6½. per fathom. The winze below this level is worth 7½. per fathom. The stope in the back of same, east rise, is worth 7 per fathom.

MELELLANER.—John Gilbert, Nov. 12: We have intersected several small patches of mundle in the 70 cross-cut, driving north from the main lode, east of Gundry's shaft, and the ground throughout is strongly mineralised, and looking congenial for producing copper ore. The lode in the 100, west of Gundry's shaft, is $\frac{1}{2}$ ft. wide, and yielding 1 ton of copper ore per fathom. In the 110, east of shaft, the lode is $\frac{1}{2}$ ft. wide, and yielding 1 ton of copper ore per fathom. We also saw saving work for tin, but the ground is very sparse for driving. We have met with the lode east of the cross-course in the 110, east of the shaft, and cut into it about 2 ft., which is yielding a good deal of mundle and occasional stones of tin, and is letting out a large stream of water, but we have not reached the south wall of the lode. In the 120, east of shaft, the lode is 3 ft. wide, still yielding $\frac{1}{2}$ ton of copper ore per fathom and a little tin, and looking promising for an improvement. The lode in the 130, west of the shaft, is $\frac{3}{4}$ ft. wide, and yielding 2 tons of copper ore per fathom. The rise in the back of this level is also yielding 2 tons of ore per fathom. The lode in Gundry's engine

important provisions contained in the concession are the privilege of the use of the harbour and works for 33 years except the Custom-house, the guarantee by the Government of interest at 6 per cent. per annum for six years on the capital expended on the works up to 281,250*l.*, and the right of collecting harbour dues during the term of the concession. Dividends at the rate of 8 per cent. are secured upon the revenues of the Port of Coara by a grant from the Government of Brazil.

Bedford United, 1*½* to 1*¾*; at the half-yearly meeting to be held on Nov. 26 the accounts will show a cash balance in hand of 574*l.* 9*s.* 4*d.*, and that the profit available for a dividend is 653*l.* 15*s.* 9*d.*

Devon Great Consols, 2*½* to 2*¾*; the monthly sale of copper ore, 600 tons, takes place next week. The cross-cut at the 220 is expected to intersect the lode shortly, and driving has been commenced at the 112 in a lode worth 2 tons per fathom. At the Maria part of the mine the lode in the shaft is producing some rich copper ore, with every indication, it is stated, of making an important discovery.

Devon Great United, 1*½* to 1*¾*; the lode in the 120 west continues to look well, and is worth about 2 tons of rich ore per fm. The sale of 77 tons of copper ore next week is of high quality, and is expected to bring a good price.

Dolcoath shares have advanced this week to 66, 67 per share, the quarterly profit being 5013*l.*, out of which a dividend of 1*l.* is was paid.

Drake Walls, 1*½* to 1*¾*; good progress is now being made in sinking the engine-shaft below the 102, where the lode is valued at fully 10*l.* per fathom, while the north lode is producing a better class of tin-stone for the stamps.

Ketton, 1*½* to 2*½*; good progress continues to be made in all departments. The water at Clayton shaft is now down to about the 110 fathom level, and the appearance of the mine continues to improve in several places. The pipe of grey copper in Salt's level is holding downwards in a satisfactory manner, and the manager states that it is improving in both quality and quantity, and bids fair to open out to a deposit of great value. The other points of operation underground continue to progress in a satisfactory manner, and new discoveries are constantly taking place. The dressing machinery recently purchased is being delivered; upwards of 20 tons of it being now on the spot, and no time will be lost in erecting it, so that before long the company will commence sending ores to market. It is stated that the machinery is of the best quality, and has been purchased advantageously.

Kit Hill Great Consols, 1*½* to 1*¾*; the tunnel level has now been driven 327 fms., and the north shaft is now down to within 6 fms., where driving will be commenced in the direction of meeting with the tunnel level.

South Devon United, 1*½* to 1*¾*; the lode in Martin's shaft continues to open out well; worth 20*l.* per fathom; and the 120 west is valued at 3*l.* per fathom. Sampling of copper ore made this week is 200 tons, and for sale next week.

South Wheal Frances, 6*½* to 6*¾*; the mine continues to open out well, the different points of operation being valued at about 300*l.* to 310*l.* per fathom.

Ruby and Dunderberg, 1*½* to 1*¾*; the weekly report again deals chiefly with the Lord Byron Mine, where the orebody at the bottom of No. 1 cave is opening out well, and promises to turn out a good-sized body. The usual amount of tribute ore had been sent down from the Dunderberg Mine.

In Lead Mines Shares there has been again very little doing, although lead is decidedly better, and mines which have recently sold ore have received fully 2*l.* per ton of contained lead above the lowest price. Should this satisfactory condition of affairs continue new life will be given to several districts. Roman Gravels, 3*½* to 3*¾*; the agents report that the mine continues to open out well. The sale of lead ore this week is 100 tons, realising 722*l.* 10*s.*, being a little better price than last sale.

The Patent Invert Sugar Company (Limited) notify that the extensive alterations made at their distillery, to enable them to produce 10,000 gallons of spirit weekly, are now complete, and they will at once proceed with the distillation of the first 50,000 gallons, materials for which are already on the premises.

PROSPEROUS GOLD MINING ENTERPRISE.

The enormous auriferous wealth of the Minas Geraes and the permanency and regularity of the dividends earned in the mines of the region—notably the St. John del Rey—are well known to the readers of the *Mining Journal*, who, moreover, recognise the fact that although St. John del Rey dividends are temporarily suspended, the suspension is not due to the exhaustion of the gold deposits of the district, but rather to the necessity which has arisen to alter the system of working in consequence of the emancipation of the slaves in the Empire of Brazil having entirely changed the character of the labour market and rendered imperative some cheaper and more expeditious process of gold extraction than that which has hitherto been adopted in Brazil. What process will prove suitable to the treatment of the auriferous ores found in the mines remains an open question, but in the meantime it has been determined to turn to profitable account the immensely rich gold sands of the Piranga, the easy and economic method of obtaining the gold by the application of the Ball extraction process ensuring a highly lucrative result. With regard to the property upon which it is proposed to operate, it appears that a valuable concession has been obtained from His Majesty the Emperor of Brazil, covering about 200 miles of the highly auriferous Piranga river, in Minas Geraes, from which gold has already been taken in large quantities. In one bend 50 ozs. were obtained in two hours by 30 slaves; but at the end of that time there was the usual result, that the water could not be kept out with the rude arrangements of the locality and time, and this enterprise was duly drowned. Gold is now usually carried about by the natives in quills. The apathy of the population, which leaves things to take their own course as long as a few hours of panning now and then during periods of drought, afford the men all they require for the intervening period, the absence of capital and of enterprise on the part of the better classes, and the contending interests which had at one time to be dealt with, fully account, moreover, for the apparent neglect of so magnificent a property.

But more able and active minds saw their opportunity, and by dint of judgment and well-timed expenditure the whole property has been brought into one hand. There is a large amount of land surface, reefs, &c., but these do not form part of the present venture, which is entirely limited to the river bed. The width is between 10 yards and 90 yards; there is a slow current, no great rise or floods, and the water is 3 or 4 ft. deep, whilst the gravel is from 2 ft. to 20 ft. thick. The country is absolutely healthy. The property is only 12 hours by rail from harbour, and thence 25 miles by oxen carts, capable of carrying even 2 tons to the very spot where work has to begin. It is, therefore, considered difficult to find a more inviting spot on which to venture the small capital required. One month distance from London, healthy locality, country entirely civilised, concession for 50 years. How to work this river bed is the next question. Here the owner, after due inspection and comparison of all known systems has given the preference to the Ball dredging and sluicing patent machinery. Arrangements have in consequence been entered into between the owner and Mr. Ball, in consequence of which Mr. Ball's third syndicate is being formed. The capital required is 1500*l.* The gold after collection is used in the first place to pay all expenses, after which one-sixth, by permission of the owner, is set apart for the remuneration of the capital. The plant, which is to be sent out during December and January, is designed to deal with about 15 tons an hour, or 150 tons a day, at a cost of about 10*l.*, so that great results are anticipated, as the selected ground pans easily 1 oz. to 1 oz. the ton, though taking only 2 or 3 dwts. and 250 working days of 10 hours the result is large, something like 20,000*l.*, one-sixth of which amounts to over 3300*l.* Mr. Ball has the right to place a larger plant out of profits or otherwise on the spot, and he has the choice of the whole 200 miles of river, the best spots have been ascertained beforehand, so that no uncertainty exists. A large

100 tons an hour plant, which would soon follow the first, to be then used as a testing plant would move 250,000 tons a year, and with 1 or 2 dwts. a ton would provide most extraordinary returns. It is pointed out that the usual features of Mr. Ball's financial methods are embodied in the present enterprise—that no money is paid either for property, patent, or promotion, and that the whole business rests on a broad basis of good faith and straightforward dealing—the risk being small, and the possible returns very large. It is stated that the syndicate is already half completed, and that another week or fortnight will see it closed, that the machinery is in hand, and that the first returns may be expected in about three to four months.

COPPER-YIELDING MATRIX.—In reply to an enquiry in the *Journal* of Nov. 1, as to the occurrence of a permanent and profitable copper mine in limestone, sandstone, or porphyry, a correspondent writes:—Several of the mines in Arizona, United States of America, are in this formation. The well known, and probably the richest, copper mine in Arizona—the Copper Queen—is in limestone formation. In December, 1881, I examined this mine. It is a deposit or mass of ore embedded in limestone, composed of red oxide carbonate and grey copper ores that yielded an average ley of about 12 per cent. The remarkable feature in the ore is its facility in smelting. The yield from the output of ore on the date of my visit was the net profit of \$45,000 per month. The deposit was then cut into 159 ft. deep, and at that depth the indications of its continuing rich was every way favourable. The reserves of ore at the depth mentioned above were estimated to contain 80,000 tons; that would give a net profit of \$1,197,000. In 1883 I returned to Arizona, and was informed that this mine was equally as rich as in 1881. I have examined several other copper mines in limestone and porphyry, both in Arizona, New Mexico, and in Mexico, but never a second Copper Queen. Some have returned great profits for a year or two, but as a rule they have a short life. My experience of this formation is the rich oxides and carbonates of copper change their character entirely, and sooner or later iron pyrites predominates. Probably the Copper Queen will one day, if it has not already, sink into this feature of the deposit. It is rare that a copper mine, in any part of the world, and in any kind of formation, has given such rapid and brilliant results to the owners as the Copper Queen Mine.

WEST ARGENTINE.—Three bags of mineral from the company's mines in San Luis have been treated in London. No. 1, Carolina, weighed 1 cwt. 1 gr. 18 lbs., and gave 2 ozs. 12 dwts. 6 grs. of gold, and 13 dwts. 2 grs. of silver; No. 2, Veta Blanca, weighed 1 cwt. 2 grs., and gave 1 oz. 6 dwts. 3 grs. gold, and 6 dwts. 13 grs. silver; and No. 3, Canyada Honda, weighed 1 cwt. 2½ grs., and gave 6 dwts. 12 grs. of gold and 9 dwts. 16 grs. of silver. Messrs. T. B. Jordan, Son, and Commins, succeeded in taking out 98 to 99 per cent. of these gold contents, traces only remaining in the refuse after treatment.

SANTA BARBARA.—Very favourable advices have recently been received from this mine, showing that the ore now being raised is of a richer quality, yielding 4585 ozs. of gold per ton, the returns for October show a profit of about 500*l.*, and this will be considerably increased as the mine becomes further developed. A large amount of capital has recently been expended for additional machinery and water power, for the purpose of working the mine on a larger scale. The shares during the week have attracted consideration and attention, and are reported in demand at 1 to 1½. They are 10*s.*, fully paid, and already 12*s.* 9*d.* per share has been returned in dividends, and next year it is anticipated that much larger profits will be made and better dividends realised.

NEDENES COPPER MINES.—Under date Nov. 7, Mr. J. Daw, jun., writes that the mines continue to look well, and are yielding splendid ore. He expects to have at least 100 tons of dressed ready to ship in about a week hence. The calcined ore will take a little longer. He adds—"The property is a good one, and we are daily making a profit." A full report from Mr. J. Daw, jun., is on the way to the office.

BRATSBERG.—The ore per the Constance has weighed 204½ tons, and realised 2249*l.* About 168 tons gave a produce of 22½ per cent., and fetched 117. 8*s.* 7½*d.* per ton. The Mary Owen is on the way with another cargo.

OSCAR GOLD MINE.—No clean up has yet been made, but there are good reasons for anticipating that the result of the crushing will be most satisfactory.

DEVON FRIENDSHIP.—The aggregate cost of the levels and stopes is 29*l.* 17*s.*, and their value 75*l.*

EAST UNY.—In the advertising columns of this day's *Journal* a sale of this mine, as a going concern, is announced. It is stated that the suspension of the mine is occasioned through the unfortunate financial position of some of the original large shareholders. From the very promising character of the points of operation in this mine it was deemed advisable to have it inspected by Captain W. Trevena, manager at Wheal Agar and Wheal Basset Mines, a copy of whose report is appended. It is rarely such an opportunity is offered to mining speculators of obtaining a mine in good working order, with every indication of becoming a great and early success with moderate expenditure.

QUICKSILVER-WAVE AMALGAMATOR.—Referring to the letter from the managing director of the Conrad Hill Mine, as per paragraph in the *Mining Journal* of Oct. 25, it should be stated that although some of the ores at that mine are free milling, most of them are refractory; so that the statement that that company are using the amalgamator "for all their various ores" is the greatest possible proof of its value as a gold saver. Last week from about 7 cwt. of inferior ore from the Transvaal, brought over purposely for a practical test, a button of gold was got from the retort, almost equal to the full value of the stone. The 7 cwt. (third of a ton) were passed over the amalgamator in about half an hour.

LEAD ORES.				
Date.	Mines.	Tons.	Price per ton.	Purchasers.
Nov. 7—	Minera	28	£ 7 3 6	Walker, Parker, & Co.
—	ditto	20	7 3 6	Panther Lead Co.
—	ditto	50	7 3 6	ditto
—	ditto	5	7 4 6	Walker, Parker, & Co.
11—	Lisburne	40	7 17 6	Panther Lead Co.
—	Cwmystwyth	7½	6 3 6	ditto
—	ditto	7½	6 3 6	Quirk, Barton, and Co.
—	East Darren	25	9 19 6	Sheldon, Bush, and Co.
13—	Roman Gravels	50	7 5 0	ditto
—	ditto	50	7 4 0	ditto
—	Rhodesmor	50	7 15 6	Quirk, Barton, and Co.
—	West Trellogan	20	7 18 6	Walker, Parker, & Co.
—	Great Holway	—	8 19 6	ditto
BLENDE.				
Date.	Mines.	Tons.	Price per ton.	Purchasers.
Nov. 7—	Minera	95	£ 4 2 6	English Crown Co.
—	ditto	70	4 0 6	ditto
—	ditto	64	4 0 6	ditto
—	ditto	56	3 18 6	ditto
—	ditto	49	3 12 0	Vivian and Sons.
—	ditto	49	3 12 0	ditto
—	ditto	23	3 14 6	ditto
BLACK TIN.				
Date.	Mines.	Tons.	Price per ton.	Purchasers.
Nov. 7—	Phoenix United	24	£ 42 12 6	Redruth Smelting Co.

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25 Bedford United, 27s 6	10 S. Condurow, £2½	100 Kongsberg Silver,
20 Corn Camborne, 5s 6d	20 South Darren, 5s	500 Kapanga, 2s 9d.
100 Collacombe Cons., 3s	10 South Frances, £6½	100 La Plata, 5s 3d.
10 Devon Cons., £2¼	140 Tresavean, 7s	100 Last Chance, 1s
45 D. Friendship, 2s 9d.	50 Trevaunance, 37s 6d.	100 Lisbon-Berlyn, 6s 9d.
20 Devon United, 5s	50 West Crebor, 1s 6d.	50 Montana, 2½
160 Drake Walls, 2s 6d.	10 West Kitty, £3½	50 Mysore Gold, 3s 9d.
30 East Blue Hills, 5s.	25 West Fildice, 6s 6d.	25 New Emma, 12s 6d.
10 Ecton, 42s 6d.	20 Wheal Basset, £2.	100 Nouveau Monde, 3s.
100 East Wh. Rose, 9s 6d	15 Wheal Crebor, 22s 6d.	100 Nundydoo, 10s 6d.
20 Frome, 5s 9d.		50 Oscar Gold, 12s 6d.
100 Goginan, 2s 3d.	50 Asia Minor, 3s 6d.	paid, 16s 3d.
10 Great Lacey, £2½	50 Akankoo (I.P.), 5s.	50 Oscar Gold, Vendors'
10 Gunnislake (Oilt.) 8s 6	150 Balkis, 4s 9d.	Shares, 22s 6d.
10 Great Holway, 15s.	25 Bratsberg, 23s 6d.	25 Organo, 10s.
50 Home Mines Trust,	45 Cartago, 12s 6 p., 7s	50 Orita, 24s.
22s, ex div.	100 Cankin Bamoo, 2s.	25 Potosi, New, 15s 6d.
50 Killifreth, 15s 6d.	10 Copiapo, £2½	100 Port Phillip, 2s 3d.
100 Kit Hill Gt. Cons., 6d	50 California Gold, 10s 9	100 Panulicillo, £3 11s 3d.
100 Kitty St. Agnes, 15s	170 Callao Bis, 15s.	25 Ruby, 11s 9d.
50 Mounts Bay, 2s 6d.	100 Chile, 2s 6d.	11 Richmond, £45.
25 New Kitty, 24s.	30 Chontales, 2s 9d.	20 Rio Tinto, £135.
100 New West Caradon, 3s	100 Colombian Hyd., 9s 9	9 Schwab's Gully, £6.
100 Old Gunnislake, 2s 6	50 C. St. Austr. Corp., 2s	40 Spitzkop, 13s.
100 Old Shepherds, 12s 6	50 Denver Gold, 2s.	100 Tacuahu, 1s 9d.
20 Phoenix United, 37s 6	50 Frontino, 13s 6d.	25 Tocopilla, 3s.
50 Polberro, 41s.	50 Glenrock, 2s 6d.	11 Tolima A, £6½.
50 Prince of Wales, 6s 9	100 Gold Coast, 4s.	15 Transvaal Gold, 17s 6
50 Parys Copper, 1s 6d.	30 Hoover Hill, 4s 6d.	10 U. Mexican, £3 8s 9d.
15 Roman Gravels, 70s.	250 Indian Consol., 3s 3d.	80 Victoria Gold, 7s 6d.
20 South Caradon, 13s 9d	20 Javali, 4s.	100 West Callao, 3s 9d.
	100 Kohinoor B, 3s 6d.	

* S. JAMES can buy or sell any of the above shares. Correspondence
invited. Trustees, executors, and others will find their duties considerably
lightened by submitting schedule of shares held to Mr. JAMES, who will return
the same by next post with market values attached.

Orders by letter or telegram promptly attended to. Speculative accounts not
opened on any terms whatever. Send for selected list of Mines. CLOSING
PRICES issued every Tuesday and Friday.

TELEPHONE NO. 212.

BANKERS: IMPERIAL BANK, Lothbury, E.C.

DENT'S WATCHES AND CLOCKS.

NEW ILLUSTRATED CATALOGUE
of High-Class Watches and Clocks at
Reduced Prices sent Post Free on applica-
tion to E. DENT & CO., Bankers to
the Queen, 61, Strand, London, W.C.;
or 35, Royal Exchange, E.C.

LE MOUVEMENT INDUSTRIEL BELGE.

REVUE TECHNIQUE, COMMERCIALE, ET FINANCIERE,
sous la direction de Mr. l'ingénieur P. DESGUIN. Paraît le 4 Juillet,
1884, et successivement les Vendeurs de chaque semaine. Il contiendra des
articles d'actualité sur l'agriculture, la navigation, les mines, la construction,
les machines, les chemins-de-fer, les canaux, les travaux publics, le droit indus-
triel et commercial, les inventions, et les perfectionnements, et principalement
sur l'Exposition Internationale d'Anvers, dont il publiera les plans, les dessins,
et documents de tous genres.

TEXTE ILLUSTRÉ DE BELLES GRAVURES.
Abonnements annuels: Belgique, 25 francs; pays voisins, 30 francs.
S'adresser à Mr. NICOLAS FASTRE. Ingénieur-Administrateur.

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MINE "EL CALLAO," GUAYANA, VENEZUELA.

32,200 SHARES.
Gold in bars produced in the month of September, 1884, and re-
mitted to Messrs. Baring Brothers and Co., London—14,101.64 ozs.
DIVIDEND distributed for each Share, 24 francs.
(Signed) A. LICCIONI, President.
(Signed) VICTOR J. GRILLET, Treasurer.

THE FAIR OAK COLLIERY COMPANY (LIMITED). IN LIQUIDATION.

FAIR OAK COLLIERY, CANNOCK CHASE, RUGELEY,
STAFFORDSHIRE.

IMPORTANT SALE OF HIGHLY VALUABLE MACHINERY, COLLIERY
PLANT AND STOCK, LOCOMOTIVE ENGINE, RAILWAY WAGONS,
AND OTHER EFFECTS.

MESSRS. JOSEPH COCKSEY AND SON have received
instructions from the Liquidator of the company TO SELL, BY
AUCTION, on MONDAY, TUESDAY, and WEDNESDAY, the 24th, 25th, and
26th November, the WHOLE of the

FIXED AND LOOSE PLANT AND STOCK

At the above Colliery, comprising:—
Horizontal high-pressure WINDING and HAULING ENGINES; air com-
pressor and steam engine; a 30 feet Galibal ventilating fan and steam engine;
steam boilers and fittings; boiler feed engines; underground pumping and
hauling engines; loamy pit frames; winding and hauling ropes, with pulley
wheels and gearing; wrought iron pit cages; about 170 tons of wrought iron
tramway rails; the rails and other materials in the colliery branch railway and
sidings; a six wheel locomotive engine, by Fox, Walker, and Co.; truck and
cart weighing machines; portable weighing machines; a capital coal screening
apparatus, with hoist; about 500 coal tubs; safety lamps; colliers' tools; smiths
tools; timber; stores; wrought and cast iron pipes; wrought and cast iron
scrap; office furniture; wagonette; and a variety of other effects; also a number
of railway wagons.

SALE TO COMMENCE EACH DAY AT 11:30 A.M. PRECISELY.

The colliery is situated about 2½ miles from the Rugeley Junction and Town
Stations on the Trent Valley and Cannock and Rugeley lines of the London and
North-Western Railway. It communicates with the latter by means of a short
branch railway and sidings, which will be sold, subject to their remaining undis-
turbed for a sufficient period to allow of their being used (if required) to faci-
litate the removal of the machinery and other plant.

Conveyances will be at the Rugeley Junction Station on the days of sale to
meet the trains arriving from Walsall and Stafford at 10:50 and 11:24 A.M.
Catalogues may be obtained on and after the 17th instant of Messrs. R.
MACKAY and Co., 3, Leithway, London, and Royal Exchange, Middlesbrough;
or the Auctioneers, PARADISE-STREET, West Bromwich; and at the Colliery.

WHEEL HOPE TIN, COPPER, AND BLENDE MINE, FOR SALE, BY AUCTION.

MR. T. R. MILLS is instructed to offer FOR SALE, on the
Mine, on THURSDAY, the 27th day of November, 1884, at Three
o'clock P.M., the above Mine, as a going concern, with all

MACHINERY, MATERIALS, AND TOOLS THEREON.

The mine is situated in the parish of Kea, Cornwall, in a rich mineral district,
and has several large and productive lodes running through the set, and can
be worked for upwards of 40 fathoms deep without the aid of a steam-engine.
For particulars apply to the Auctioneer, Church-street, St. Day; or the
Furser, Mr. HANLEY MICHELL, Scorrier, Cornwall.

CARLUDDON AND SOREEDA, ST. AUSTELL, CORNWALL.

VALUABLE CHINA CLAY WORKS, MACHINERY, &c.,
FOR SALE.

Sett extends over about 60 acres. The machinery and gear are exceptionally
good, and in working order. 27 inch cylinder STEAM ENGINE, with boiler;
winding and pumping gear; drying kiln and shed 120 feet long; excellent
water supply, and shipping facilities good.

Capt. MURDOX, on the Works, will show the premises. Present sett to be
determined 1st January, 1885, whence favourable renewal can probably be
obtained.

Tenders and all applications for particulars to be sent to the undersigned
within the present year. No tender necessarily accepted.

Dated 9th November, 1884. HOLSWORTHY, North Devon Mail.

VERY VALUABLE MINING MACHINERY, &c., ON SALE.—
PUMPING, WINDING, AIR COMPRESSING ENGINES, with Boilers,
lifts of pumps and workings, complete; continuous ORE DRESSING MA-
CHINERY, complete, with Water Wheels or Engines; heavy and light RAILS,
and MINING MATERIALS AND STORES of every description, CHEAP.

Please state requirements to Mr. JOHN L. M. FRASER, Greenfield, Wrexham.

NOW PUBLISHING, PRICE 30s., THE THIRD EDITION OF

KELLY'S DIRECTORY OF THE MERCHANTS,
MANUFACTURERS, AND SHIPPERS OF THE
UNITED KINGDOM.

Being a Guide to the Export and Import Shipping, and Manufacturing
Industries of the United Kingdom, with the Colonies and Foreign Countries.

This work gives a vast amount of information respecting the business carried
on between the United Kingdom and the Colonies and foreign countries, showing
the description of goods and the amount thereof exported to each Colony or
country abroad, the British ports whence shipments are made, the merchants,
factors, and shippers at the various ports and towns in England, the manu-
facturers of the principal goods exported, and the merchants and others abroad who
are importers or buyers of British goods.

It also gives complete information as to the various descriptions of goods, and
the amounts thereof imported from abroad into this country, with the names
of the merchants and shippers, and also the manufacturers at the principal
towns of the various goods imported.

The work is divided into three principal divisions, the first of which comprises
the various foreign countries and British possessions throughout the world to
which British manufactures are exported.

Under each of these is given, first—a statistical account of the country; the
financial position; business relations with this country, with, in the case of
foreign states, the names of the British and other Consuls; the name of the
Minister in this country; Consuls, Vice-Consuls, &c., at the various ports and
places in this country; the principal bankers, the merchants, commission mer-
chants, buyers of English goods, and the manufacturers, &c., at the principal
towns of the various goods imported; the various ports in each country; also
the ports in this country whence shipments are made; tariffs, &c., &c.; a tabular
statement showing the exports from this country during the last three years; a
list of the merchants and shippers in the various British towns; list of steamers
and other vessels sailing from the ports; also a list of the various manufactures
that are exported from this country.

The second division comprises an alphabetical list of the exporters from this
country, stating the class of goods exported by them.

The third division of the work embraces the names and addresses of the actual
manufacturers, or manufacturers' agents, of the articles exported, describing as
clearly as possible the specialities of each manufacturer.

"It is almost exhaustive as a guide to the shipping and manufacturing in-
dustries, both export and import, of Great Britain and Ireland."—The Times,
Sept. 20th, 1884.

"Merchants and manufacturers of all kinds will find the Directory a valuable
guide, whether their interests are concerned in exports or imports."—Daily
Chronicle Sept. 12th, 1884.

"It abounds in information of the kind which merchants, manufacturers, and
exporters are constantly in need of. Its scope, however, is not confined to the
classes who in this country have business with the colonies and foreign parts;
but includes also the principal merchants abroad, so that the book becomes a
tolerably complete guide to the import and export industries of all countries
with which Great Britain has any mercantile relation, and vice versa."—Daily
News, Sept. 17th, 1884.

"In collecting the names of foreign and colonial firms—a task of considerable
difficulty, as will be understood—Messrs. Kelly have had the assistance of
British Consuls, many of whom have given personal testimony to the important
service this Directory fulfils in commercial circles abroad."—European Mail,
Sept. 25th, 1884.

London: KELLY and Co., Publishing Office, 51, Great Queen-street, W.C.

THE COLLIERY READY-RECKONER AND WAGES CALCULATOR.

By JAMES IRELAND.

"Will be the means of preventing many disputes between pay clerks and
colliers."—Mining Journal.

To be had on application at the MINING JOURNAL Office, 26, Fleet-street, E.C.

Notices to Correspondents.

HURRICANE MINING COMPANY.—I hold a scrip for 50 shares in the Hurricane
Mining Company, Humboldt County, Nevada. Will some correspondent be
good enough to inform me, if possible, if this company is still in existence,
and if so, about the value of the property?—J. H. B.

COST-BOOK LIABILITY.—I was a holder of 17 shares in C—S—M—M—M, and it was
re-constituted and christened R—Copper Mine, and after some delay I ap-
plied for 17 shares in the said R—M—M in place of 17 shares in C—S—M—M,
I having to pay 7s. per share. It was re-constituted with 13s. called up for the
shareholders in C—S—M—M; but things coming to my knowledge afterwards
which did not suit me, I wrote to the secretary saying I would not take up my
shares, and in consequence I have never paid a penny on the shares, and now
the mine is being wound-up in the Stannaries Court at Truro, and from thence
I have had a circular stating that I am made a contributory, and I have re-
plied that I am not a shareholder, never having contributed anything. I
would like to know if my contention is right or wrong. I have always under-
stood that if nothing was paid upon shares in a public company there was no
liability. It is not like having given an order to a broker to purchase shares.
I shall esteem it a great favour if you will kindly say whether I am right or
wrong. I do not know precisely, and I only want to do what is right.—X. X.
[You are unfortunately liable for your full proportion of the debts and li-
abilities of the R—M—M outstanding at the date at which the winding up com-
menced. The mere application for the 17 shares after the re-constitution was
quite sufficient to render you liable. It cannot be too often repeated that the
liability on a Cost-book mine share is absolutely unlimited, and that when, in
case of winding-up, there are, for example, 200 shareholders, of whom 50 are
solvent and 150 are men of straw, the 50 solvent shareholders will have to pay
the whole of the liabilities between them.—ED. M. J.]

COST-BOOK LIABILITY.—I am, unfortunately, a shareholder in a Cost-book
mine now being wound up. In the statement of accounts sent out ledger
balances show arrears of call amounting to nearly 4000l. As a shareholder who
has paid all calls when due, have I any responsibility for the arrears of others.
Should they not be forthcoming, and if so (though I hope not), can I by any
means know to what extent I am responsible, and by a definite payment be
free of the concern. Perhaps something may be realised by the sale of ma-
chinery, &c. Kindly answer in your correspondence column.—A. D. O.
Durham.—(Read reply to "X. X.") As to obtaining release by a definite pay-
ment, it is probable that a liquidator of a Cost-book company has power to
release a contributory by accepting a compromise in the same way as the liquid-
ator of a Limited company is authorised under Section 169 of the Companies
Act, 1862.

LE NICKEL.—In reply to the enquiry in last week's Mining Journal the offices of
this company were two years ago in the Rue de la Chaussée d'Antin, Paris. I
called at the offices to get some information and a report. I understood the
company was paying, and very successful. I was informed that no report was
ever published. A verbal statement was made at the annual meeting to the
shareholders, and I rather think that all profits over—per cent. were ex-
pended upon enlarging the works of the company for smelting, &c. I believe
these works are near Marseilles. The ore is brought from the French island of
New Caledonia. According to the Almanach Financier of 1884 the company
has issued 17,000 shares of 500 frs. each, and 5000 obligations of 500 frs. each.
These latter were issued at 450 frs., and give a revenue of 15 frs. per annum,
payable 750 frs. on Jan. 15 and July 15. This rate of interest appears very low.
I have not seen any quotation of market price of shares and obligations. They
are all in few hands, and if further information could be obtained of the com-
pany I should be glad to learn something about it.—E. C. Leamington.

THE NICKEL COMPANY.—Le Nickel is established and at work in this country
under the title of "The Nickel Company." For several years prior to their
formal establishment in this country Le Nickel were proprietors of the Erd-
ington Works, near Birmingham, where the rich New Caledonia nickel ores
of the company were and continue to be refined. The company is quoted on
the Paris Stock Exchange, but the stock is held in comparatively few hands,
and they mostly large holders. There is no balance-sheet published, but the
dividend for the year ending June 30, 1883, was at the rate of 5 per cent.
per annum, which might, however, have been much larger had not a very con-
siderable amount of debentures been paid out of the revenue of the year. The
prospects of the company are considered very good. There is doubtless a great
future before nickel; and besides the company's rich nickel and cobalt pro-
perties, they are also owners of large deposits of chrome and antimony.—H. A.
JONES, Commercial Secretary.

Received.—"J. D." (Saltash): No particular alteration in the mine has been re-
ported recently, and the decline in the price of the shares should cause no
fear, as it may be the result of the general depression.—Bourne. Next week
—"S. F." (Birmingham): Inserted—"A. S." (Dudley): Publication com-
menced—"T. P. N. B."—"W. R." (Redruth): The documents have been re-
turned by post as desired.

THE MINING JOURNAL, Railway and Commercial Gazette.

LONDON, NOVEMBER 15, 1884.

THE PROPOSED TECHNICAL AND SCIENCE COLLEGE FOR WALES.

One of the favourite axioms of the late ABRAHAM LINCOLN, the
American President, when in the face of formidable obstacles, was
"Keep pegging away." And there can be no doubt that persistent
determination surmounts many difficulties, and overcomes many
impediments; and if to steady plodding be added a little well-
directed zeal and enthusiasm, success is pretty well sure. We have
long since advocated the establishment of a Scientific and Techni-
cal College for Wales, convinced that that great mining and metal-
lurgical district is not only entitled to such an institution, but it is
absolutely imperative if its great staple industries are to develop
and prosper. One of the surest means of bringing about this great
 desideratum is to act upon the axiom of President LINCOLN,
and constantly keep before the Government and the public the
urgent necessities of the case and the need for decisive action. We
have never been able to understand why Wales has been so long de-
prived of the boon of a mining and technical college, unless it be
the apathy of its Parliamentary representatives, its colliery proprie-
tors, and metal manufacturers, who have never made urgent appeals
to Government for help, or laid the claims of their district before
them. In almost every other part of the country such institutions
have been established and supported, and have done admirable work.
Wales, with one of the largest coal fields in the kingdom, and ad-
mittedly the centre of the metallurgical industries of the world, has
no single mining and scientific and technical school throughout its
whole district, and its great, and we may say "national," industries
are consequently deprived of the inestimable blessings of the practi-
cal education which such institution would afford, and of the stimulus
which would be called forth.

We have reason to believe, however, that in consequence of the
healthier public spirit which has lately been evoked upon this sub-
ject, and the representations made by some of the authorities and
leading manufacturers, that the Government are now seriously con-
sidering the question with the view of supplying the long-urged
need. It is only a very few years since that Government at all re-
cognised the claims of Wales to educational grants at all; and
when some two years ago it awarded 4000l. per annum to both
North and South Wales to found colleges, it was generally considered
that this was a most meagre sum, whilst it left absolutely untouched
the mining and scientific wants of the district. Subsequently the
authorities of Swansea put forth the strongest (in our view un-
answerable) grounds for the establishment of a mining and technical
college in her midst. In the very heart of a large coal district,
surrounded with almost every conceivable manufactory connected
with the metal trade—silver, copper, steel, iron, zinc, cobalt, tin-
plate—Swansea possesses the means of affording those practical
lessons in metallurgy and chemistry which are the very essence of
success in these schools. That the Government has not lost sight
of the necessity of establishing a mining and scientific college for
Wales is evident from the fact that his Worship the Mayor of
Swansea, Mr. R. D. BURNIE, has just received a letter from the
Privy Council, dated Nov. 4, which says—"I am desired by the Lord
President of the Council to inform you that the resolution which you
forwarded him on April 22 last has been the subject of careful
consideration both before the close of the late session of Parliament,
and also more recently, and that you will shortly receive an official
communication from the Education Department which will convey
to you the decision which has been arrived at." The Mayor and the
Council of the borough have naturally great hopes from the recep-
tion of such a communication, and believe the time is not far distant
when the Government will respond to the many appeals for aid in
the establishment of a technical and science college, the time
being certainly fully ripe for such an institution.

A few evenings since Mr. T. A. SOUTHERN read the report of the

committee of the Cwmavon Science Schools, which gave some few
facts and figures showing the absolute necessity for the establish-
ment of a technical and science school. In the United Kingdom
there are no less than 500,000 persons engaged in mining, whilst at
the last examination there were only 346 pupils examined in mining;
so that not more than one out of every 1500 persons engaged in
mines were studying the theory of his work in a mining class.
During last winter there were only 25 mining schools held in the whole
of the United Kingdom—one class to every 160 collieries, whereas
every colliery village should possess one. Of those classes no less
than 10 were in the county of Durham, whilst Monmouthshire and
South Wales, which produced nearly as much coal as Durham, or
nearly 15 per cent. of the output of the whole kingdom, had only
one mining class—that being at Cwmavon. In other words, amongst
60,000 miners there were only 16 pupils in a mining and science
class. Not only so, throughout the whole of South Wales and
Monmouthshire there were only two classes for the study of
mechanics—at Cardiff and Cwmavon—and only three classes for the
study of steam—at Cardiff, at Cwmavon, and Llanelly. No one
will pretend to argue that this is anything like a tithe of the pro-
vision which ought to exist in such a populous and important mining
and metal district as that of South Wales. Rapid as has been its
development and expansion during the last 25 years, it has a still
greater future before it. Important maiden districts are being
opened up, and its gigantic steel and other metal trades are being
gradually extended, attracting hundreds and thousands of col-
liers and artisans to its midst. The district has suffered severely
in the past from the absence of a technical and scientific college.
Its great industries have been thwarted and starved for the want of
proper scientific encouragement and support, and much injury to the
staple industries has resulted. And, if such has been the case in
the past, it will be more felt in the future, unless the college be estab-
lished without further delay. We have every reason, however, to
believe, as we have before stated, and judging from recent corre-
spondence which has taken place with the Government, that this
long-felt and urgently required boon will soon be granted. At all
events we hope the public of South Wales will not upon the good
old motto of President LINCOLN, and "Keep pegging away" until
their object be accomplished.

MINING FATALITIES FROM INEFFICIENT PROPPING.

Whilst constant attention is being directed to the best means for
preventing explosions in mines, but little notice is taken of the still
more numerous fatalities that take place from the inefficient tim-
bering of the roofs of the working places. During the last 20 years
4981 persons were killed by explosions, and 8802 owing to falls of
roofs and sides in mines, and there is no doubt a large proportion
of the latter were preventable. At an inquest held at Barnsley, on
Tuesday, relative to the death of two miners who were killed at the
Oaks Colliery by a fall, it was shown that negligence was the actual
cause of the sad event. The underground deputy stated that de-
ceased were ordered by him to set two props, but did not do so, and
the result was a heavy fall, which buried both of the men. The
Government Inspector, Mr. WARDELL, said the deputy ought to have
seen that the men set the props; but a deputy in an extensive mine
cannot be expected to be present at all points where props may be
required. It is also evident that a good many miners cannot be
trusted to look after their own safety, but Mr. WARDELL truly states
the safety of a man's working-place to a great extent depends upon
his own watchfulness and care.

Still, after all, there should be no great difficulty in devising means
for greatly lessening the mortality from falls. The subject has fre-
quently been specially noticed and discussed by the Government
Inspectors of Mines, and it is understood that it will shortly be
brought under the notice of the Home Secretary, who has shown
such a deep interest in all that relates to the safe working of
mines. One thing appears to be certain, and that is, the men in
propping cannot be allowed to follow their own inclinations. Timber
we know is, as a rule, taken close to the places in which they are
working, yet for all that they defer the using of it, until at times it
is too late to save them from injury or even loss of life. Rules are
laid down at many places requiring the workmen to set timber every
two or three yards, but this precautionary measure is constantly ne-
glected. In the North of England the annual death rate from
"falls" is less than in any other of our mining districts, which is
considered to be due to the division of labour known as the deputy
system. Men are specially appointed to look after the safety of
those working underground, and in some instances fix the props
themselves, and that in an efficient manner, the result of long expe-
rience and training. Being accustomed to the work they not only
ensure the safety of the workmen, but use greater economy in the
consumption of timber than could be expected from the unskilled
workman. In the drawing of timber, too, at times a dangerous op-
eration, a saving can be effected by allowing such to be done by skilled
men alone. It will, however, be seen that there are systems by
which the loss of life from falls in mines can be sensibly reduced,
and some one of these, it is to be hoped, will be put into general
operation before long.

FUTURE PROSPECTS OF LEAD.

In the Mining Journal of June 14 we gave a short article on the
Lead Trade. Since then we cannot say that any improvement, or
even satisfactory indication of such, has taken place. The market
price was then 11l. 2s. 6d. per ton for English and 10l. 17s. 6d. for
Spanish, whereas now it is about 5s. lower. We then pointed out
that the long depression had very much weakened mineowners finan-
cially, and had caused some producers (who preferred to close their
mines rather than work at a loss) to suspend working. We expressed
an opinion that should no improvement in the price take place other
mines would, no doubt, be closed. This has been the case, as only a
few weeks back we referred to mines in Derbyshire (Milldam
Mining Company), which have stopped working. This property has
been worked for about 30 years, and has been very profitable to
its shareholders, who have received large dividends, and the closing
of same will be keenly felt by the working classes of the Peak.
The present price naturally point out that owners, both at home and
abroad, must have gone through a somewhat serious time, as it is
known that lead cannot be sold at the low price it has only realised
during the last few years to leave a margin for profit. It must,
therefore, have been only by a great curtailing of expenses and
very careful management that mines have been kept open. It is
presumed by some that the market is low owing to the over-
production of this metal; but if the actual figures be considered, no
such presumption is directly verified, although at times, as will be
mentioned further on, it has no doubt a bad effect on the market.
A comparison of the year 1881 with 1877 shows that home production,
plus the imports, were more than 10,000 tons less in the year 1881
than in 1877, and yet the price was more than 5l. per ton lower than
in 1877. Again, in 1875, the quantity of lead left for home con-
sumption was about 2000 tons more than in 1881, and yet the price
was more than 7l. per ton higher. The imports have, and are no
doubt increasing; but on the other hand, home production is falling
off, and consumption is greater than formerly. We may, therefore,
conclude that production and imports, less exports, are not much
greater than in years when the market was far above the present
price, and that consumption is on the increase. In reviewing pro-
duction we do not wish to express the idea that the increase of such
does not greatly depress the market at times, as undoubtedly it has
special depressing effects. Some months more than 10,000 tons are
imported, against 6000 or 7000 in other months, and as most of this
lead is sent directly into the market, it is only natural that in its
weak state a bad effect is produced. This anomalous way of treat-
ing the market might be easily remedied by working on the stock
system instead of the present unsatisfactory one—which is, that
owners are selling against one another to their own loss.

This state of things has been given much consideration, and one
naturally tries to obtain from statistics some cause to have influenced
the market's movements during the last few years, and no doubt
much may be learnt from same, but a study of the hands it has

passed through between the producer and manufacturer may give reasons for some of the market movements. If we look beyond the lead trade what do we find? That most metals are in the same state, and, further, that nearly every trade has been suffering from a general depression. There appears, therefore, no reason to look further for any particular cause of the low price which is now obtainable for lead. It is not new for the lead trade to have a low market, as pointed out by one of our correspondents, who contributed a highly interesting letter, which we published in March, respecting the market movement during the last 100 years. At intervals of 50 years there has been what may be termed a big fall in the price, when it has touched almost as low a price as that of to-day. After these big falls the market has again resumed its former remunerative price. Directly following these depressions the price has generally risen as much as 47 per ton in a very short time. There appears no reason why such a rise may not take place at any future time, not far distant. It is only just over a century ago (1780) that the price of lead was down to 117. 15s. per ton, and yet in 1784 the price is given at over 167 per ton. Again, in 1832 (52 years from last-mentioned fall) the price is again down to between 117. and 121., and after a short depression the price again resumed its natural state, and in 1836 we find lead obtaining as much as 257. per ton. No direct cause is assigned why these extraordinary periodical depressions took place, and there does not appear any reason why such should not happen again.

The demand for lead is unquestionably permanent, and although it is sometimes used in its place when the price is high, still it hardly serves so good a purpose. Again, electric lighting, telephonic communication, &c., requires the use of lead, and both are greatly on the increase. Respecting the future of this metal very little can be written with any certainty; but like things in general politics may have great influence on the market at any time. The subject referred to during the debate on the Queen's Speech—Depression of Trade and the Free Trade movement—would be the cause of altering the market in the event of any stir being made. It must be remembered that of the 165,000 tons or so of lead in the country over 100,000 are imported. Any disturbance on the Continent would, therefore, be very likely to alter the price very considerably, and cause it to improve somewhat. In the case of any such event happening, who would be the ones to benefit by it? Of course the home producers would partly; but it is doubtful if they have large stocks left. Therefore, the foreign producers who keep a stock in London would be the largest gainers by it. It is undoubtedly a great drawback to the present market that stocks are not more generally kept in London, and regularly treated; as at present much larger quantities arrive during some weeks than in others, and all go into the market whether it is firm or not. At the present time few owners are keeping large stocks, and little or none at all in London. The reason for this may be that they have as much as possible to do to keep their mines open by working, as it may be termed, from "hand to mouth," and no prospects of the future are taken into consideration. Surely they must be aware that such a state of things cannot last, and that by financing their lead better they would gradually become financially stronger, and be assisting in obtaining better prices. If the copper market, which is much larger than the lead, were managed in the same manner as lead, a very unsatisfactory state of things would soon take place, but that is regulated by the "warrant system."

A few years back the foreign owner had no alternative but to sell his lead on arrival, or else pay exorbitant charges for landing and storing, whereas now he has every convenience. And there is no reason why either the weak or the financed producers should send their lead into the market when it is low to realise its value for continuing operations, for provision has now been made in London whereby lead can be landed and stored at very reasonable charges and in good security, so that the owners can obtain advances to continue operations. There is nothing to be lost by using this warrant system, as the effect of sending a few hundred tons into stock may sometimes cause a rise in the price; and, further, the market is no doubt about its lowest, therefore any month may even see the price improve, and then who would be the gainers but those who had endeavoured to obtain a fair and remunerative market? By this "warrant system" lead instead of being sold at unremunerative prices could be stored in London at low charges, and the warrants negotiated to obtain advances. If the lead producers would unite and arrange to work on this system a change for the better would soon come. The market could then be properly regulated, and any slight increase in imports would not then have such an effect on the market as at present, whereas a falling off of same or an increase in demand would at once improve the value of "warrants." By this system, which should be supported generally by brokers as well as producers, a return to former remunerative prices, which is sure to come sooner or later, could be maintained.

The cholera, which is now so severe in Paris, it is hoped will not spread; but, should it do so on the Continent, and especially in Spain, where, it is feared, it is likely to next spring, trade would be greatly interfered with, and especially exports from Spain. This matter is mentioned as it is very likely to affect the lead trade, and wish to point out what an advantage producers who keep a stock in London would derive over those who do not, and who, at the present time, will not support those whose endeavours are for the good of all, and whose undertakings will undoubtedly become successful in the future. Of all the markets, no doubt, the lead has as healthy a prospect before it as any of them; and before very long it will no doubt be beyond the present depression, when, with the assistance of the "warrant system," it will become more certain, and those who lost through the present depression should be in a sufficiently healthy financial position to be able to unite in preventing a future low market price, the best prevention for which will be the successful supporting of the "warrant system," as already started in the lead trade, but which, as it was when first applied to other metals, gains favour only slowly, but steadily and lastingly.

EMPLOYMENT IN THE ENGINEERING TRADES.—The returns just issued by the Amalgamated Society of Engineers are of much the same character as the report published last week by the Steam-Engine Makers Society. There is still a slight increase in the number of unemployed members, but there has not been that serious increase of members reporting themselves out of work as was shown in the returns for the previous month and the donation benefit returns remain at about 4½ to 5 per cent. of the total membership throughout the country. The condition of trade continues the most unsatisfactory in the shipbuilding centres; locomotive builders and toolmakers are kept fairly well employed, but general engineers and machinists are quiet, and it is only very exceptional where the branch reports return trade as good, moderate, declining, or bad representing the general average of the returns. With the exception of the old-standing dispute at Sunderland and the strike in the Barrow district, where the men are apparently determined to resist to the uttermost the reduction demanded by the employers, there is no serious wages question at present going on; but with a continuance of the very depressed state of trade the maintenance of present rates would scarcely seem possible.

SUDDEN OUTBURSTS OF GAS IN MINES.—One of the greatest dangers to which the miner is liable is a sudden outburst of gas, which so far neither skill nor science can anticipate or prevent. The only safety for the miner when one of these discharges take place is in the excellence of his lamp. Hence the necessity in mines known to give off gas for the best safety-lamps, and the disuse of powder. Sometimes an outburst will take place from the floor of a mine, spreading through two or three miles of workings, or it will come from the roof without the slightest previous indication, and continue to ooze out, perhaps, for weeks, and to such an extent that no possible amount of ventilation would clear away and render the mine fit to work in for a certain time. Last Thursday one of these outbursts took place at the Denaby Main Colliery, near Doncaster, and at a time when about 800 persons were underground. A large quantity of gas suddenly came out after there had been a fall of coal, which put a number of the lamps out, and caused the men to rush

to the bottom as fast as they could without waiting to take their clothes with them. Fortunately the lamps in use were of the best Mueseler type and being in good condition the gas did not affect them, whilst the ventilation ultimately cleared the workings. Yet in some mines in which there is a good deal of gas met with from time to time naked lights are used, as if inviting some calamity. The gas that burst out at Denaby evidently came from the stratification, and had not accumulated in the goafs as it so frequently does. At a neighbouring mine, the Thrybergh Hall, there was an outburst from the floor and roof, in both of which there was a fissure, and the gas continued to come up in more or less quantities for something like three weeks. The subject is one of great importance, however, and should be scientifically investigated for the benefit of all persons in any way connected or interested in coal mines, more especially for ensuring the safety of the working miners. As it is, serious calamities, so far as sudden outbursts of gas are concerned, with our existing knowledge can only be averted by having the best of safety-lamps in all mines in which there is known to be gas, and prohibiting the use of powder.

MANCHESTER ASSOCIATION OF EMPLOYERS AND FOREMEN.

At the fortnightly meeting of members of the above Association, held on Saturday, an interesting paper "On Special Machine Tools for making the Wrought-iron Under Framing of Railway Wagons" was read by Mr. JOHN CRAVEN (Messrs. Craven Brothers, Manchester). There was a numerous attendance of members, and Mr. THOS. ASHBURY, C.E., the President, observed that iron was superseding wood to a large extent in the construction of the underframes of railway carriages. Attempts had been made some time back in the introduction of iron in the place of wood, but there were then serious difficulties in the way, which had interfered with its development. To overcome these difficulties the production of special machines had been necessary, and the paper which Mr. Craven had prepared illustrated one section of the most recent designs in these labour-saving machines. Mr. John Craven, in introducing his paper, said the requirements of railways, especially in connection with rolling stock, had made it necessary that special machine tools should be employed to turn out a large quantity of work of the best class with all the parts interchangeable, and at a minimum cost.

Mr. CRAVEN then proceeded to describe a series of specially designed horizontal and vertical multiple drills and other machines, that had been previously referred to in these columns, which had been constructed by his firm for the Great Western Railway, and were now put down at their works at Swindon for making the wrought-iron framing of railway wagons. By this machine the whole of the parts are prepared and finished ready for putting together with comparatively little or no manual labour being required. The machines are fixed along one side of the shop 300 ft. long by 45 ft. wide, and they are all driven from a line shaft the full length of the shop. The material is brought in at one end of the shop, and passed on progressively from one machine to another until it reaches the opposite end of the shop, where the frames are put together on movable trussels, with fixed brackets or gauges to keep the frame right to standard, and all the parts being exactly alike the putting together is a comparative easy operation. They are then passed on to three of Twedell's patent portable rivetters, which are suspended over the wagon framework on three light overhead travellers, and two men and a boy rivets up an underframing in two hours. The frames are then mounted on springs fitted with buffers, draw-bars, &c., and sent out complete to the wagon shop to have the bodies mounted upon them: 50 sets of these underframes are made per week of 54 hours, and more could be turned out with minor additions to the machines or by running the present ones faster. As they were running at present they balanced the output, and the company generally had 50 complete sets in hand before the erectors and rivetters. Some idea of the enormous requirements of a large railway might be formed from the Great Western Railway Company having 40,000 wagons of the class constructed by these machines, and with the output of 50 per week it would take 16 years to renew the entire stock. He considered that the complete series of these machines formed a good example of the employment of special tools, making a triumph of mind over physical force, as the whole of the work was done, comparatively speaking, without the sound of a hammer.—Mr. PARKER, Manchester, Sheffield, and Lincolnshire Railway, thought that before another 10 years had passed iron frames would become universal, if for no other reason than the cost of timber.—Mr. WORTHINGTON, London and North-Western Railway, said he had never seen any drilling machines anything like those which had been described, and he did not think there was as complete a plant in existence for the special purpose as that which had been put down by the Great Western Railway at Swindon.

After some further discussion, the PRESIDENT observed that Mr. Craven had described to them what was the nearest approach to perfection in this special class of work that he believed was in existence; and with the large introduction of iron underframes for railway wagons this class of work had become a very important industry. He added that if railway engineers would only consult a little more with the contractors, and make their designs a little more practicable, some uniform system might be adopted. Inspection had been carried to a length that was altogether absurd, and it was high time some of these high-down engineers were made to take a turn in the contractor's shop, and there carry out their own designs.

The usual vote of thanks then closed the proceedings.

REPORT FROM CORNWALL.

Nov. 13.—The general aspect and prospects of mining affairs have varied but little since our last. If anything the outlook seems a little more encouraging, but there is not much to indicate a definite improvement. The probability of the clearing of the political atmosphere seems to have had some effect in rousing expectation; but that is too doubtful an agent just at present to be wisely reckoned upon. In another week or fortnight, probably, we shall be better aware what there is to expect from this direction. Meanwhile the mines themselves do afford some tokens of encouragement in their position and promise.

Possibly there may be those who are inclined to grumble at the Dolcoath dividend. A profit of 5000*l.* is, however, by no means to be despised, considering not only the heavy fall in tin for a mine which makes such large returns, and the quantity of renewal and progressive work carried out since the last account. The loss on the returns by the fall in the standards is just 2000*l.*, so that the mine must have been worked to the fullest advantage to produce the results achieved. As for the future the prospects continue most excellent. There is more tin ground opened in the bottom of the mine than at any previous period, and the eastern ground appears to be developing into what is essentially a new mine.

The fact that the engine-shaft is now being sunk more than twice as fast as formerly is also a very important factor in estimating the position of a mine which has so successfully pioneered riches in depth. As the engine-shaft is now sunk to just 380 fms. below the adit, the depth from surface on the line of the shaft now considerably exceeds the 400 fms. which we have been accustomed to credit, and is within a couple of hundred feet of half a mile. At the present rate of progress the 400 fm. level does not seem in a very remote future.

Incidentally the meeting was important also as enabling Mr. Gilbert Pearce to make an authoritative statement respecting the recent American "scare." No doubt there is tin in America, but not as yet known to exist in quantities to interfere with Cornwall. Much of the so-called "tin" it appears is no "tin" at all; and Mr. Pearce stated that a good deal that had been thought to be so had turned out to be tantalite, interesting no doubt in a mineralogical sense, but not of any commercial value. The whole story reminds us very strongly in some particulars of the blunder made by a farmer not very long ago on the borders of Dartmoor, who worked as he thought a tin mine on his own account, only to find that he had spent his time and money in amassing a heap of some scores if not

hundreds of tons of schorl! A little knowledge is never very safe in mining matters.

It would hardly be in rule to comment upon the Great Wheal Polgooth case in the form in which it has now come before Vice-Chancellor Bacon. The matter is yet *sub judice*. All we can at present say is that there is nothing absolutely new in the statements which have been set forth, and nothing whatever in the narrative to discourage the investor in legitimate mining speculation. The revival of the story will of course tell against Limited ventures for the time; but that is really not an absolutely essential conclusion. It is of course something more than a mere accident that affairs of this kind crop up far more frequently in connection with Limited than with Cost-book companies; but notwithstanding a very decided preference for the latter it is only common justice to say that there are limited mining companies of a very different character to Great Wheal Polgooth. We do not wonder, however, that Vice-Chancellor Bacon should have said that the case as opened to him was more interesting than a novel. The issues involved are of a very serious character and will call for further comment by-and-by, when judgment has been delivered.

Wheal Basset meeting was noteworthy chiefly for two points—the very encouraging character of the prospects, and the attitude of Mr. Basset in regard to the remission of dues. Practically 45,000*l.* have now been called up in this mine, and on any equitable arrangement, of course, no dues under such conditions should be payable; but where the legal right to require them exists it is something to be really thankful for when they are not exacted. The next six months, in all probability, will make or mar the fortunes of Wheal Basset, and will naturally prove an exciting time to all concerned. However, nothing could be more hopeful.

The suggestion has been made that the action of the dynamite "ring" in putting up dynamite to very nearly double its recent price should be met by the formation of a company on behalf of the mines. Unquestionably the venture would pay, but the difficulty is that of inducing united action, and it has been pointed out that there is a serious hindrance to this, in the fact that some of the mines have discounted the rise by laying in heavy stocks.

REPORT FROM LANCASHIRE.

Nov. 13.—There is a very quiet tone throughout the Coal Trade of this district. This is, of course, largely due to the mildness of the season, and the consequent limited demand for the better qualities of round coal for house fire purposes, but the present depressed state of trade cannot be set down wholly to this account. The demand for iron-making, steam, and general trade purposes continues only moderate, with little or no prospect of any early improvement. The result is that there is a want of animation in trade generally, and the orders coming forward are not sufficient to keep pits going more than four or five days a week. Instead of pits being kept on full time, with stocks being filled up, as is usually the case at this time of the year, many of them are working short time, and stocks are accumulating. Quoted rates are nominally unchanged; but there is a good deal of underselling, and where stocks are held under bond very low figures are taken to effect sales in quantity for prompt delivery. At the pit's mouth best coal averages 9*s.* to 9*s.* 6*d.*; second, 7*s.* up to 8*s.*; common house fire coal, 6*s.* to 6*s.* 6*d.*; steam and forge coal, 5*s.* 6*d.* to 6*s.*; burgy, 4*s.* 6*d.* to 5*s.*; good slack, 3*s.* 9*d.* to 4*s.*; with common qualities to be got at from 2*s.* 9*d.* to 3*s.* per ton.

Shipping has been only quiet during the past week, with low prices ruling, common steam coal delivered at the High Level, Liverpool, being offered at about 7*s.*, with the better qualities quoted at 7*s.* 6*d.* per ton.

In the Iron Trade moderately large sales of forge pig-iron are reported to have been made during the past week or so, and with the upward movement in the Glasgow market makers are showing less anxiety to enter into further heavy engagements at present. There is, however, no really stronger tone in the market here, and by buyers in this district the recent upward movement in Scotch iron is generally treated with indifference. Lancashire pig-iron makers maintain their prices at 41*s.* to 42*s.*, less 2½ for forge and foundry qualities delivered equal to Manchester, and offers at under these figures have been declined; but new orders are coming forward very slowly, and even the present limited output is becoming difficult to move. In district brands makers in some cases have shown rather a firmer tone, but Lincolnshire brands are still to be got at about 41*s.* to 47*s.*, less 2½ delivered here, with Derbyshire iron quoted at 1*s.* to 1*s.* 6*d.* per ton above these figures.

Hematites have shown a slight upward tendency and 6*d.* to 1*s.* per ton above the late minimum rates is being quoted. Prices however are still very low, and there are good foundry brands to be got at about 52*s.* 6*d.* to 53*s.*, less 2½ delivered here.

Manufactured ironmakers are kept fairly well employed, but it is chiefly with work coming in from hand to mouth, and more anxiety is being shown to secure specifications. Prices remain on the basis of 5*l.* 12*s.* 6*d.* for good qualities of bars delivered into the Manchester district.

The Engineering Trades continue dull; with the exception of locomotive builders and toolmakers, it is very exceptional where full employment is reported and there is a continued tendency in the direction of decreasing activity.

REPORT FROM DERBYSHIRE AND YORKSHIRE.

Nov. 13.—At some few mines in Derbyshire engaged in the working of coal some farther improvement has taken place, so that the men are more fully employed. A good deal of house coal has of late been sent to the Metropolis, so that merchants have plenty of opportunities for purchasing on favourable terms. The consignments, indeed, have kept prices down so far as colliery owners are concerned, although the consumers are not benefited in any way. Colliery owners selling direct to consumers in London of course benefit by the comparatively high prices which are obtained at the present time, but those who have to sell out nearly as fast as the trucks arrive, and by means of agents are in a very different position, for they have to take as much as they can get, which depends in a great measure on the stocks held by merchants and large dealers. Prices, however, are now higher than they ought to be to the consumers in London, considering the rate at which coal can be purchased at the pits and the carriage rate as well. House coal can be bought of fair quality at 7*s.* per ton at pits, but when it gets to the cellar of the consumer in the Metropolis the charge is 21*s.* or 22*s.* per ton of 20 cwt., whereas a pit ton consists of 21 cwt. Steam coal has not improved in demand, but there is still an average consumption of it on the part of the railway companies and iron-makers. In gas coal a rather good business is now being done, there being some good contracts in hand with several companies. Small coal does not go off so well as could be desired, so that there is some difficulty in disposing of what is raised and made. The production of coke is by no means large and is easily sold, for a good deal has to be imported from other districts to meet the requirements of the blast-furnaces.

Pig-iron continues in steady request from the leading works in Derbyshire, Staffordshire taking a fair quantity, whilst no material decline has as yet taken place in what is required for the large foundries in the district. The business doing in pipes has kept up well, although when the winter quarter sets in there is generally a marked falling-off as regards their production. There is also a fair output of other kinds of heavy castings at the foundries connected with the furnaces, so that the local absorption of pig-iron is well kept up. The mills are running better than they were, and in this department there is likely to be continued activity for some time to come, as there is understood to be a very heavy railway contract in hand at the Batterley Works. In malleable iron trade is moderately fair in small machine as well as in other kinds of castings, especially those of an ornamental description.

Trade in Sheffield continues to look better, more particularly in some of the higher departments, although but little is doing on American account. But the election being now over it is expected that orders will now flow in more freely from that country, for some of our manufacturers have a name there far above that of any of

the native houses. This is more particularly the case with the best kinds of cutlery. In fancy pocket-knives, for instance, the name "G. Wolstenholme" stands out before all others, and the knives realise a much higher price than any of the home-made articles. In general cutlery, however, a decided improvement has certainly taken place, and the men are now likely to be kept well employed up to the holidays. In some kinds of tools there is also rather more doing, and the same may be said with respect to scissors, and fancy steel fittings for work and other boxes. The steel houses have worked steady of late, the production being well maintained. Rather more Bessemer is now required for rails and ordinary railway forgings, whilst some of the cutlers and tool makers are taking more than they did. Crucible steel has looked up, more especially in some special qualities for the best qualities of table cutlery and fine tools. Scarcely so much, however, is now required for heavy castings in connection with engines and machinery; but a good deal is still consumed by makers of wheels of various kinds. At the mills no change appears to have taken place, and at some of them there is not much doing. Ship-plates continue quiet; but it is expected that the new year will see the shipyards better employed than for a long time past. Boiler-plates are also quieter than they were, and there is only a moderate demand for steel-plates. At the Atlas and Cyclops Works there is plenty doing in armour-plates, and there is every prospect that this will continue to be the case, and in all probability some additional plant will have to be put down to meet the increasing demand. The engine-works remain in much the same state as they have been for some time past, some being tolerably well-off for business, and others the reverse. Railway-wagon builders have nothing to complain of, having plenty to do in both new work and repairs.

The colliers in the South Yorkshire district are now fairly employed, there being a steady demand for house coal, especially for London and the South, whilst steam coal has also gone off well for the time of year, more especially for exportation from Hull and Grimsby.

TRADE IN SOUTH WALES.

Nov. 13.—The exports of coal in the month of October from Cardiff were 571,288 tons foreign and about 20,000 coastwise, with 15,715 tons patent fuel, and 2465 coke; Newport, 136,508 tons foreign and 100,826 coastwise, with 922 tons coke; Swansea, 74,265 tons foreign and 59,590 coastwise, with 17,732 tons patent fuel. The amount of coal exported in the first ten months of 1884 from Cardiff was 6,004,479 tons, being an increase of 343,352 upon the corresponding period of 1883; Newport, 1,407,248 tons, an increase of 71,153; Swansea, 796,496, a decrease of 31,157; Llanelly, 66,894, an increase of 24,515. Last week the coal clearances from Cardiff amounted to 111,114 tons foreign and about 20,000 coastwise, with 2600 tons patent fuel; Newport, 39,571 tons foreign and 20,131 coastwise; Swansea, 23,742 tons foreign and about 15,000 coastwise, with 2905 tons patent fuel. The amount of trade done last week was not so good as usual, but as the yearly contracts are about to be made this fact may partly account for the apparent lull. Good colliery-screened steam coal, however, maintains its price at from 10s. to 11s., while house coal may be bought at from 8s. 9d. to 9s. 3d. Small steam coal is in slack demand, but the patent fuel trade remains good.

The Marquis of Bute's agent, Mr. Samuel James, has just concluded a contract with the Pacific Steam Navigation Company for 20,000 tons of Bute Merthyr coal for their next year's requirements.

Some of the collieries in the Rhondda Valley are working short time, pointing to a lessened demand in the market.

Near Fleur-de-lis a new pit is being sunk by Messrs. Bevan and Price, with a view of winning a seam of the celebrated Mynyddislwyn house coal.

None of the iron and steel works in South Wales and Monmouthshire seem to be doing a healthy trade except Landore and Dowla. The amount of iron exported in the month of October from Cardiff was 7112 tons, making 74,708 for the first 10 months of the year; Newport 7938 tons, making 98,764; Swansea 572, making 3667. Last week Newport sent away 1930 tons. Iron ore came into Cardiff from Bilbao to the extent of 9567 tons, and 1693 from other places; Newport received 12,094 tons from Bilbao. Prices remain low, at about 10s. 9d. per ton.

Tin-plates are now down to 14s. per box, and as black tin and iron are low in price there is some prospect of manufacturers being able to keep on. A good trade is being done, as speculators are of opinion that prices will not go lower.

REPORT FROM NORTH WALES, SALOP, AND CARDIGAN.

Nov. 13.—Of the last-named county, once so famous for its lead mining, there is not much to say at the present time. Before any considerable resuscitation of mining industry can take place there must be a considerable reduction of rents and royalties. It must in fairness be said that these have been as reasonable in Cardiganshire as in most other counties. Still, the terms on which mines have been held have been too onerous, and for bona fide mining enterprises there must be a reduction. One of the—of the present—dead mining industries of North Wales is that of ironstone mining in the older Silurian strata. The traveller from Carnarvon to Beddgelert sees extending up the mountain side to the north, near Bettws Garmon, a long series of excavations. These were ironstone mines, which were worked between the years 1840 and 1850, when the ore extracted was sent to Aberdare, to be mixed with the clay ironstones of the coal measures. The deposit is interesting as occurring in a bed from 20 to 30 ft. thick, forming one of the lower beds of the Llanfyllid Flags, in which the ore occurred in large irregular masses, in the form of oolitic kidney and pisolitic ores. The same bed extends to the south-west to Llanmaelhalarn and Abersoch, at both of which places it was worked at the time referred to. At Bettws Garmon the composition of the ore was—loss by ignition, 7.90; clay and silica, 12.90; peroxide of iron, 34.14; protoxide of iron, 32.90; alumina, 3.66; lime, 5.00; magnesia, 1.00; phosphoric acid, 2.25; arsenic, trace. The quantity of metallic iron was 49.50 per cent. in the raw and 53.74 per cent. in the roasted ore. Further south the quantity of phosphoric acid rose to 4.45, and it was this fact probably that led to the closing of the mines. Possibly when the methods of removing phosphorus from iron are perfected these very extensive deposits may be worked once more. A similar deposit occurs on the same geological horizon near Portmadoc, and was worked about the same time.

The alterations in the Manchester Ship Canal Bill are before the public, and they ought, one would think, to remove all objections on the score of silting up the estuary of the Mersey. "Crossing the Mersey last Friday, when the tide was running out at the rate of five miles an hour or so," a friend remarked, "I should think the fears expressed as to the Ship Canal exerting all these deleterious effects upon this estuary which have been attributed to it are all fudge." "They are," was my reply.

At the new waterworks of the Liverpool Corporation at Llanwdyn, the River Wyrnwy has broken into and filled the excavation in which the foundation of the great masonry dam across the valley is being laid, causing a temporary stoppage to this part of the works. The laying of the pipes 3 ft. 6 in. diameter from this point to Liverpool, a distance of 70 miles, is being satisfactorily proceeded with.

The shipments of earthenware and china from the Potteries to the United States of America for the first nine months of this year amounted to 65,010 packages, as compared with 93,212 during the period of 1883. This falling off is mainly attributed to the vicious overstocking of the American markets. The accumulated stock is said to be partly cleared off, and a considerable revival in the trade with the States is anticipated before long. The total value of the earthenware and china exported to all countries during the first nine months of this year was 1,360,505l., as compared with 1,669,055l. in the same period of 1883, and 1,620,583l. in that of 1882. Next to the United States of America Australasia was our best customer. The iron and coal trades are working steadily, and prices, although low, are maintained. The slate trade is in a healthy state,

and some quarries which had been idle for some time have been re-started. The Maenoffern Slate Quarry Company, Festiniog, were fined by the magistrates, at Penrhynenddraeth, last week for storing 10,000 detonators in an unregistered building. The company pleaded inadvertence, and the fine was only a nominal one of 40s.

Considerable activity prevails in the fire-brick, sanitary ware, and terra cotta trades. Some of the oldest works are crowded with orders, and are glad to avail themselves of the help of the younger works. This is a trade, or group of trades, which has made rapid extension in the Ruabon district of late years. It is now one of the greatest importance, and affords a comfortable living to several thousand families. The freestone quarries of the same district are also busy. A very handsome building of Cefn freestone, with granite pillars, is being erected in North John-street, Liverpool.

REPORT FROM NORTH AND SOUTH STAFFORDSHIRE.

Nov. 13.—The reduction in the price of limestone announced last week is regarded as indicating that prices of iron-making coal will not be raised this winter, and as ironmasters see no reason for laying in stocks, some of the large collieries are obliged to work short time. The competition from the Cannock Chase district is still active, consequent upon the small demand which, up to date, has been expressed for domestic coals. No possibility, therefore, exists for South Staffordshire masters to get better prices, and they feel themselves fully justified in demanding that their men should in nearly all cases accept the late reduction awarded by the arbitrator, whether during the recent strike they were allowed to resume the old terms or not. In short, there is at present a general levelling down in colliers' wages, and it is improbable that the men will offer any strenuous resistance. Furnace and ordinary house coal is still quoted at from 9s. to 10s. per ton. In the pig-iron trade stocks, although not so heavy as they were, are considerable in bulk. The best "makes" of all-mine pig-iron (hot air) are quoted at 3l. 3s. 6d., 3l. 5s., and 3l. 7s. 6d. per ton; part mine, 2l. 5s. and 2l. 10s.; and cinder iron, 1l. 17s. 6d., 2l., and 2l. 2s. 6d. Consignments of pig from Shropshire, Derbyshire, &c., are arriving in fair quantities. Orders for finished iron are not coming in with increased vigour, and at other than the sheet-mills the work is of a hand-to-mouth sort. Competition is severe and prices are weak.

The representations by the South Staffordshire Railway and Canal Freighters' Association to the London and North-Western, Great Western, and Midland Companies, in respect of the heavy rates charged for the transit of their goods, have not met with much success. The main points relating to the rates to London, Liverpool, and Hull have not been altered, the companies announcing that they have been unable to agree to any arrangement. Some trifling concessions have, however, been promised. Sooner or later the companies must reconsider their decision, or else manufacturers will be compelled to adopt other measures. Meanwhile, another instance of the injustice to native enterprise of unfair rates has just been made public. The rate for tin ingots from Cookley to London is 25s. 10d. per ton, whereas it is 20s. 10d. from Neath.

The discontent which prevails in some quarters with regard to the operations of the Mines Drainage Commissioners has this week been vented by Mr. Fred. W. North, of the Rowley Hall Colliery Company, Dudley. This gentleman is anxious to know "how much longer colliery owners are to be crushed" by taxation, in order to drain a water-logged portion of the district, and "how many more years the active collieries are to submit" to the burden of unwatering the inactive ones. Mr. North contends that his company has paid more than 2000l. ostensibly for draining the surface, and that "navy, plank, or wheelbarrow has never been employed by the Commissioners within a mile of their pit." It seems rather late in the day now that the Commissioners' work is proceeding favourably to indulge in such criticism as this. There can be little doubt but that when the Commissioners' work has been completed good will accrue to the district.

TRADE OF THE TYNE AND WEAR.

Nov. 13.—There is still a steady demand for best steam coal, which keeps the best works north of the Tyne fairly going, but those producing second-class coal are not all fully employed. In Durham there is a good demand for best gas coal, and most of the collieries are fairly employed. There is a fair demand, considering the continued mildness of the winter season, for household coal, and advanced rates have been received in the local, London, and South Coast markets. The inland and foreign demand for coke continues to be only moderate, but the best works—Strakers and Love, Messrs. Pease and Co., and some others—are fully employed. The export demand for coke has fallen off somewhat of late, and it is stated that coking coal is got from this district and converted into coke, and the by-products also secured by manufacturers on the Continent. The improved modes of coke making, so as to extract the by-products, ought to be extended here. This has been done by some of the large cokers, as Messrs. Pease and Co., Messrs. Bell Bros., the Earl of Durham, and others, but there is ample room for further extension of this system in the Durham coal field. The regular demand for manufacturing coal has fallen off very much, owing to the dull state of the iron trade, but an outlet for a considerable quantity of this coal has been found in the supply of steamers. The export of nut coal continues very good from the Tyne, Wear, Seaham, &c. There is no change in the value of coal or coke of any consequence, with the exception of house coal, as noticed above. The shipments of coal and coke at Tyne Dock have been much reduced during the past week, owing to the detention of vessels by stormy weather in the North Sea. The total shipments were nearly 100,000 tons, about 14,000 tons less than the corresponding week last year. We learn from Brown's Export List that the exports for October from the north-east ports were 709,874 tons, against 659,857 tons in October last, an increase of 41,017 tons; and the shipments coastwise, principally of Wallsend and gas coal for home use, were from the north-east ports 622,657 tons, against 650,560 tons in October last.

The Iron Trade has been very quiet this week, but a fairly favourable tone has been maintained, and sellers have not been willing to accept less money for any kind of iron, unless we except forge pig. The market has not been affected either by the decline of stocks or the fluctuations in the Scotch market. Shipments are expected now to fall off, but No. 3 pig-iron remains at 36s. 3d. for early delivery and 36s. 6d. for delivery over the first six months next year. There is little change in the manufactured iron trade; the demand has not increased much. The bar trade is pretty steady, and the prices fairly maintained. Ship-iron is, of course, very slack in demand. The reports as to the steel trade are of an encouraging character, and the works generally are well kept going. It is expected that next week the arbitration as to the rate of wages in the manufactured iron trade of the North will take place. It was postponed owing to the illness of Mr. Trow; but it is hoped that he will now be able to take some part in the arguments that will be placed before the arbitrator. The question that is primarily to be decided is, Whether the rate of wages shall be increased or reduced, or remain stationary. The frequency of these arbitrations, their costly and slow character, as well as the disturbances to the trade, all point to the desirability of some standard being declared, from which wages shall rise or fall in a given ratio with prices, that some basis of a sliding-scale shall be agreed upon. The need for this has been pointed out by several umpires, and it would be well if the arbitration of next week could decide upon it.

The Shipping Commission now attracts much attention on the Newcastle Exchange, and the composition of the Commission is all but universally condemned. Steamship owners state that they are not adequately represented on it. At present it appears that there will be a powerful and wide-spread opposition to the Commission. Why, then, it may reasonably be asked, have some gentlemen who have all the necessary qualifications for the position, refused to join it? Mr. C. M. Palmer and others are, we believe, in that position, and the President of the Board of Trade has not been able to get the men he wished on the Commission. The agitation on this question, however, last week has led to the appointment of four additional gentlemen as suggested by the shipowners at the principal shipping centres, and it is now expected that matters will go more smoothly.

The shipowners are much opposed to further legislation of any kind; but the great loss of life clearly shows that further measures are necessary in order to protect the lives of seamen and prevent the loss of vessels, and if this can be effected it will ultimately be advantageous to the shipowners, as it would lead to a reduction in the cost of insurance, which is now very heavy. The feeling on the Newcastle Exchange is improving, and the impression gaining ground that the worst of the general depression has been passed, and a gradual improvement may now be expected. A few more new ships have been ordered at the yards on the Tyne and Wear, and there is a considerable increase in repairing work, which has enabled the masters to employ an increased number of hands. A new local steamship company has been registered, to be called the International Line Steamship Company, with a capital of 550,000l., in 111 shares, to acquire the following steamships:—Maud Hartman, T. J. Robson, &c., ten steamships in all. The leading men in the company are local men, well known in the shipbuilding and shipping trades. The managers of the company are Messrs. Ward and Holzappel. The triple expansion engine for steamships continues to attract attention, and it is claimed for it that it effects considerable economy in the fuel consumed. We understand that one firm on the Tyne has decided to put triple expansion engines into four of their vessels. If only half the saving is effected claimed for these engines it will give a great relief to the shipping interest. There are now a number of vessels fitted with those engines, and the result of their working will be watched with much interest by engineers and all concerned.

GREAT WHEAL POLGOOTH MINING COMPANY.

In the Chancery Division of the High Court of Justice, on Nov. 8, the adjourned summons on behalf of the official liquidator of the Great Wheal Polgooth Mining Company (Limited) came on for hearing before Vice-Chancellor Sir James Bacon. The official liquidator was represented by Mr. Chadwyck Healy and Mr. J. F. Wheeler; Mr. Hatfield Clarke appeared for the respondent Fortescue and Mr. Murke Knowles for the respondents Wilde and Sir W. Crosbie. The application was for a declaration of the Court that Henry Sedgwick Wilde, Sir William Edward Douglas Crosbie, Bart., Edward Francis Knottesford Fortescue, and John Hunter Stephenson, directors of the Great Wheal Polgooth Company (Limited) were guilty of gross negligence, misfeasance, and breach of trust in relation to the said company, in adopting an alleged contract dated March 17, 1881, and alleged to be made between James Anderson on the one part, and Nicholas John Widdicombe on the other part, referred to in the prospectus of the said company, and in carrying out, or attempting to carry out, the said contract, and in paying Ledru Rollin Reynolds, the promoter of the said company, sums amounting to 15,446l. in pursuance of the said contract, and on account of the purchase-money therein referred to, and in allotting to the said Ledru Rollin Reynolds, under the assumed name of James Anderson, 30,000 shares in the company, expressed to be fully paid up. The summons also asked for a declaration that the directors were jointly and severally liable for the sum of 15,446l., that they were guilty of breach of trust in carrying on the business and making payments to Reynolds after they had notice of his frauds. Mr. Healy stated that in 1870 the mine was known as the Godolphin, and that it was then held on lease by two persons, James and Hoskin, but was not worked.

In 1881 negotiations were entered into between two men, Hooke and Reynolds, with James, for the purchase of the property, which was ultimately agreed to be handed over for 2000l. Reynolds then consulted a mining and financial agent in London, named Stephenson, and arranged to give him 1000l. for a bundle of old reports referring to the mine, and for undertaking to assist in bringing out a company, and finding directors. Mr. Pease, the landlord's agent, arranged to grant a new lease at a rent of 40l. a year, and 1-18th of the produce. On March 8, 1881, an agreement was entered into between Hooke on the one part, and Reynolds, on the other, by which Hooke agreed to give Reynolds the sole right of purchasing at any time within six weeks all the mineral rights of the property for the sum of 2000l., and a lease of the property for 21 years from Jan. 1, 1881. Reynolds seemed to think that the appearance of his own name would be fatal to the prospects of the company, and accordingly Hooke was asked to destroy the old agreement, and to substitute for it another agreement in the same terms, but in which the name of James Anderson, of Tower Chambers, London Wall, was substituted for that of Reynolds. This request was complied with. On March 9 the company was registered as the Great Wheal Polgooth, and on the 16th of the same month the prospectus of the company was issued. It stated, among other things, that the mine had already returned it was estimated over 200,000l. in profits; "whilst the 51 shares rose to 157l. each," and "this, too, with the disadvantage of inferior machinery." In this statement the learned counsel remarked that there was not a particle of truth. The prospectus, he added, also stated that the reports showed that there were 2,000,000l. worth of tin in the mine which could at once be worked, and by water-power entirely, and that the company would sell a part of its property to another company for 50,000l., thus earning for the shareholders 10s. on each share.

It was also stated that Captain Fortescue, of the Great Australian Tin Mines, had been engaged to survey the property, and he reported that the seven lodes of the Great Wheal Polgooth were superior to anything he had ever beheld, that he would take 4000 shares and go without salary until 30 per cent. was paid on the shares, that there was no risk, and that it was simply a question of raising the tin and selling it. Captain Fortescue, Mr. Healy remarked, was Reynolds under another name, and the report, no doubt, was written in Tower Chambers, London Wall. Various reports were issued with the prospectus. That of Captain Fortescue, otherwise Reynolds, stated that the lodes were simply walls of tin, and that at a little depth the wealth of the metal must be fabulous. The next report was that of Francis Buckie. The year in which it was written was not given. Mr. Buckie, however, did exist, and as soon as he saw the report he wrote to the directors asking them what they meant by publishing it, as he had not reported to that effect—at all events, for them. The report of John Rodder, which followed, was dated Jan. 20, but no year was given, and it turned out that Mr. Rodder had been dead many years. The report of William Goldsworthy and Capt. Parkin, of Austell, also did not give the year in which they were written. Capt. Parkin was stated at the head of his report to have been specially deputed by the board to examine the property, but this was not the fact, as Mr. Parkin was entirely unknown to the board, which was subsequently formed.

The next report, that of Capt. Harris, had been altered in various places in the manuscript, the alterations being in the handwriting of Stephenson. The date, February, 1880, was added by Stephenson, but when the report was made did not appear. The document was one of those contained in the bundle of old papers handed over to Reynolds by Stephenson. The words, "Two of the lodes have been greatly rummaged," were left out of the report as printed, and for obvious reasons this passage was also left out—"Since I was agent there, which was about 16 years ago, not much has been done. We took away most of the procurable tin ground." The reports of Capt. James Pope, of Mr. Phillips, and of certain working miners had also been altered. At this juncture of the proceedings the Court rose for the day, the Vice-Chancellor remarking that the case was more interesting than a novel.

PIERREFITTE.—The secretary forwards report, from which it appears that the annual general meeting was held on Oct. 29 (Sir Thomas Dakin presiding), and that the report, which was not of a very encouraging nature, and accounts were adopted. The Chairman regretted that the report was not of a more satisfactory character. At the meeting last year it was hoped that the company had got over its difficulties, as the ore returns were exceptionally good, and the mines were showing symptoms of further improvement; but towards the end of the year a change took place in the south mine, showing the extreme uncertainty of mining operations. The retiring directors—Sir Thomas Dakin and Mr. W. J. Ashby—were re-elected.

The directors report that had it not been for the necessity of charging a seven months' cost a much larger profit would have been at the disposal of the shareholders. The mine, we are informed, is looking well, and some discoveries are expected in the 62 and 75 fm. levels which, judging from the large deposits of ore taken away in the parallel lode at or about this depth, will before long place the ad-

These works have been in abeyance since the 19th, when better quality ores were discovered by re-opening an old entrance to the shallow level. The ore of jacotunga met with here in apparently the footwall of the main lode, are small, but have so far yielded well, as evidenced by the result—480 oits. of gold from 92 tons of ores. One of the lines gave at times ore of better quality than

to sink Taylor's ship. We stuck it, and went, all the same, to the bank. The bars of gold I now send you will more than pay the working expenses for September, and now I do not see any reason why we should not get gold enough each month to meet the cost, and (barring any accidents or unforeseen misfortune) we may perhaps be able to do a little more; if the rich stone would only extend you would have a very valuable mine. We must hope and persevere. As to the question of the lode holding down in depth, I never had much misgiving, and now there is scarcely room for the most sceptical to

Registration of New Companies.

The following joint-stock companies have been duly registered:—

THE BRITISH AND FOREIGN LAND CREDIT COMPANY (Limited).—Capital 2,000,000*l.*, in shares of 20*l.* Formed for lending money on mortgage or security of land or buildings, also on stocks or shares in Great Britain, Ireland, the British colonies, or abroad. The subscribers (who take one share each) are—Henry McKenzie, Englehart-terrace, Catford; Albert Allen, Heaver-road, Clapham; W. Lake, Granville-square; B. J. Wildbor, South Grove, Mile End; T. J. Ward, 20, Frederick-street; Thos. W. Fullalove, Glenwood-road, Catford; C. Berry, Dagmar-road, South Hackney.

THE INTERNATIONAL LINE STEAMSHIP COMPANY (Limited).—Capital 550,000*l.*, in shares of 11*l.* To acquire by purchase steamships, &c., also the following steamships:—Maud Hartmann, Robson, International, Dalmatia, Teutonia, East Anglia, Mercia, Germania, Hungaria, and Cavendish, and to carry on the business of shipowners. The subscribers (who take one share each) are—W. Wood, Newcastle; J. Wallan, Gateshead; R. N. Wesenraft, Newcastle; Fred. Schnitzler, Newcastle-on-Tyne; Geo. W. Ward, Newcastle; A. C. A. Hotzopf, Newcastle.

MAXIM GUN COMPANY (Limited).—Capital 50,000*l.*, in shares of 20*l.* To purchase and acquire the good will of the business of Hiram S. Maxim, of Hatton Garden, London, with all the plant, machinery, estate, &c., and to carry on the business of gun, machine, and artillery manufacturers. The subscribers (who take one share each) are—Robert R. Symon, Cadogan-square; Albert Vickers, 34, Old Broad-street; G. M. Vickers, Old Broad-street; William Brodric Cloete, 90, Piccadilly; Gustav Natioop, 110, Paton Gardens; H. S. Maxim, 6, Lancaster-road, Dulwich; Wm. J. Cundell, Sunnyside, Wimbledon.

BRESLAU AND DISTRICT ICE COMPANY (Limited).—Capital 50,000*l.*, in 50,000 shares of 1*l.* To establish at Breslau, &c., ice-works, the manufacture and sale of ice, or other refrigerants. The subscribers (who take one share each) are—A. Mason, Great Winchester-street; H. Tippet, Northcote-road; Walthamstow, Essex; W. O. Grace, Frances-terrace, N.; F. W. Hull, 145, Drummond-road, S.E.; R. S. Ward, Grove-road, Stamford Hill; Robert Gordon; Acacia Villas, New Malden; H. L. Hinton Villa-road, Clapham.

GREENSIDE COAL AND WORTLEY FIRE-CLAY COMPANY (Limited).—Capital 10,000*l.*, in shares of 5*l.* To acquire and continue the business carried on by the Greenside Coal and Wortley Fire-clay Company, at Pudsey, in the county of York, and elsewhere. The subscribers (who take from 5 to 20 shares each) are—James Gray, Scott-street, Bradford; Roger Smith, Westfield Crescent; Henry Horn, Bradford-lane; John Gill, Morningson-street, Keighley; M. Kurshner, Spring Gardens; Arthur J. Taylor, Southfield-square; W. Prest, Yew Bank, Keighley.

BABY ENGINEERING AND FOUNDRY COMPANY (Limited).—Capital 5000*l.*, in shares of 10*l.* To purchase and carry on the business of J. W. Sinclair, at Barnard Castle, county Durham, iron founder, &c. The subscribers (who take one share each) are—J. Wilkinson Sinclair, Barnard Castle; T. Lishman, Heath-street, Birmingham; T. D. Hall, Mill Dam, South Shields; J. Errington, South Shields; R. Atkins, Phoenix Works, South Shields; P. Allen, South Shields; G. W. Allen, Newcastle.

LEMBI-ARGENTA GOLD PLACER CONSOLS (Limited).—Capital 225,000*l.*, in shares of 10*l.* To acquire mines, mineral, and other property. The subscribers (who take one share each) are—Wm. McLachlan, Palace Chambers, Westminster; Edward N. Elliott, Godolphin-road, Shepherd's Bush; A. McKenard, Queen-street, Cheapside; William C. Derraton, 28, Kirby-street; Edwin Chastelan, Bushey Hill-road; William Thomas Shepard, Turnagain-lane; Geo. S. Anderson, Warwick Gardens, W.

ULVERSTON WIRE COMPANY (Limited).—Capital 10,000*l.*, in shares of 10*l.* To purchase the business formerly carried on by John Jackson and others at Wireworks, Sandside, near Ulverston, also the goodwill, together with the lease of the wireworks, with the plant, machinery, &c., and to carry on the said business. The subscribers are—Jas. Hodgson, Britain-place, Ulverston; E. George Tosh, Ulverston; Jos. Rawlinson, Benson-street; John Jackson, Tower View; John Atkinson, Croftlands; W. N. Hartley, Town Bank; W. H. Holden, Road-terrace.

ROWLEY REGIS NAIL AND RIVET COMPANY (Limited).—Capital 4000*l.*, in shares of 2*l.* To purchase or otherwise acquire the business now carried on by James Slim, at Rowley Regis, in the county of Stafford, and all or any of the real and personal property belonging to the James Slim, and to continue to carry on a nail and rivet manufacture. The subscribers (who take one share each) are—Robert Moore, Hagley-road, Halesowen; Henry Parish, Halesowen; George Thornton, Steelhouse-lane, Birmingham; J. P. Tyther, Henrietta-street, Birmingham; John Millner, Alfred-road, Handsworth; Edw. Leigh, Ladywood-road, Edgbaston.

HALL, MCKERROW, AND CO. (Limited).—Capital 75,000*l.*, in shares of 20*l.* To purchase or otherwise acquire the business of cotton manufacturers, bleachers, and dyers, as now carried on by Messrs. Hall, McKerrrow, and Co., at Windsor Mills, Pendleton, in the county of Lancashire, and at Nicholas-street, Manchester. The subscribers (who take one share each) are—Thomas Hall, Pendleton; T. Begg McKerrrow, Pendleton; Charles J. Miller, Chestham Hill-road, Manchester; Geo. H. Bell, Nicholas-street, Manchester; F. Aitken, Ashfield, Fallowfield; John A. Petty, Spring Gardens, Manchester; Alex. McKerrrow, Maddox-street, Bond-street, London.

MANCHESTER GAS ENGINE COMPANY (Limited).—Capital 15,000*l.*, in shares of 5*l.* To acquire by purchase all the letters patent and patent engines of John Dongill, and to work and use such inventions, also to carry on the trade of gas engineers. The subscribers (who take one share each) are—J. Dongill, Broughton-lane, Manchester; James Lawrence, Rochdale-road, Manchester; A. H. Alexander, Mulberry-street, Manchester; C. H. Barrow, Waterloo, Oldham; Joseph Bickerton, Bridge-street, Manchester; James Barker, Park-street, Oldham; James Holst, Lees Brook, Oldham.

AUTOMAT C WATER METER COMPANY (Limited).—Capital 70,000*l.*, in shares of 5*l.* To adopt and carry out an agreement made between John B. Stoner and the Hon. William Nelson, Hood as trustee for the company. To purchase certain patents, and to manufacture and sell the apparatus connected with the patents. The subscribers (who take one share each) are—W. Nelson Hood, Wimpole-street; Henry Armitage, Lower Belgrave-street; Andrew A. Buchanan, Cockspur-street; John M. Mackintosh, Jermyn-street; N. Apouli, 1, Victoria Mansions; Lewis Carr, Holland-road; John B. Stoner, Toledo.

HYDRAULIC DOOR-SPRING.—At the International Health Exhibition, closed last month, was exhibited a patent door-spring, which claims to be quite a novelty, and to possess many advantages over anything of the kind hitherto invented. The older forms of spring doors have proved a source of great annoyance, owing to the violence of their action and their noise; and, although there have been many attempts to improve them, they have only been partially successful. However, Messrs. STEVENS and MAJOR's patent hydraulic spring and check, applicable to both single and double action doors, claims to have several unique advantages. It is silent in action, the rate of closing is readily adjustable at any time by any unskilled person, the whole instrument is fixed beneath the floor, and there are no unsightly projections. Not only does it act as a spring, but as a hinge also, so that no other hinges are needed; and it is said to be suitable for doors of every material, of any size, weight, or construction, and in any position, interior or exterior. The action is briefly as follows:—The spring is placed within a small pump barrel. On opening the door a charge of oil is drawn from the containing box into the pump. The spring, while closing the door, has to expel the charge of oil through a small aperture, the size of which is adjustable, and the rate of closing is controlled by the speed at which the oil is allowed to escape. The price of the spring is less than that of older and less efficient ones, and is meeting with a large sale. It has also been awarded a silver medal at the International Exhibition, Crystal Palace.

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In the Court of the Vice-Warden of the Stannaries.
Stannaries of Cornwall.

IN the MATTER of the COMPANIES ACT, 1862, and of the POLROSE MINING COMPANY.

TO BE SOLD, under the direction of the Registrar of the said Court, on THURSDAY, the 20th day of November inst., at Twelve o'clock at noon, at the POLROSE MINE, in the parish of Breage, within the said Stannaries, subject to such conditions as shall be then and there produced, the WHOLE of the MINING PLANT, MACHINERY, MATERIALS, AND EFFECTS

Of and belonging to the said company, now at, upon, and within the said Mine, including, amongst others—

ONE 40 inch cylinder PUMPING ENGINE, with two 10 ton boilers.
ONE 32 inch cylinder single ROTARY ENGINE, with two 10 ton boilers; two large fly wheels; three 16 heads stamp axles and one 12 head ditto; and 60 stamp heads and lifters complete; 16 inch horizontal winding engine and cage; shears, balance bob; calciner; one 9 feet 13 inch pump; 35 9 feet 11 inch pumps; 13 9 feet 10 inch pumps; eight 9 feet 12 inch pumps; one 6 feet 12 inch matching; one 3 1/2 inch 12 inch matching; one 11 feet 13 inch pole case; one 12 feet 12 inch ditto; one 10 1/2 feet 13 inch ditto; one 12 inch and one 13 inch top door piece and door; one 13 inch H piece and door; two 12 inch stuffing boxes and glands; two 12 inch and one 13 inch 6 feet windbores; two 13 inch scuttings and two others; bishops head, socket piece, and straps complete; one 3 feet 16 inch shaft roll; 26 new stamp heads, 4 cwt., each; one 12 feet 3 inch side screw; new and old iron; horse whim; axle and socket piece for ditto; tram wagon; six round buddies, with driving gear complete; water wheels; kieves; kibbles; barrows; iron tube 25 feet long; scales and six 55 lb. weights; wood shed, about 9 feet square; smiths' and blacksmiths' tools; new and old timber; about 4 tons of coal heap white yarn; dynamite; account house furniture and numerous other effects in general use in mines.

To inspect the above apply to the Bailiff in charge at the Mine; and for further particulars at the office of the Registrar, in Truro.

CHILCOTT AND SON, Truro,
Agents for Daniell and Thomas, Camborne.
The Solicitors having the carriage of proceedings in the said Matter.
Dated Registrar's Office, Truro, 11th Nov., 1884.

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FOR SALE, EAST UNY MINE, together with all the ENGINES, MACHINERY, PLANT, &c., as it now stands, consisting of—
ONE 70 inch cylinder PUMPING ENGINE, with two boilers.
ONE 22 inch WINDING ENGINE, and one boiler.
ONE powerful STEAM CAPSTAN, and 180 fathoms new steel rope.
ONE 34 inch cylinder PUMPING ENGINE, and two boilers.
ONE 12 1/2 inch horizontal STEAM WHIM, with capstan attached.
220 fathoms of superior pitwork (a large quantity new), also contents of smith and carpenter's shops, dry and other appliances necessary to the conduct of a large mine.

The above is offered for sale in One Lot by Private Contract as a going concern. Particulars, &c., can be obtained of the Purser, R. S. TEAGUE, Station Hill, Redruth.

PIT SINKING, WINDING COAL, PUMPING, &c.

PORTABLE STEAM ENGINE FOR SALE, 25-horse power, with or without link motion reversing gear; a 14-horse power Ditto, also gear to wind and pump.

A 9 H. P. VERTICAL STEAM ENGINE, with link motion reversing gear (winding drum if required).

A 6 ft. pan MORTAR MILL, VERTICAL ENGINE, and BOILER combined, on carriage and travelling wheels.

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FOR SALE, the STANDARD ORE CRUSHER, 12 x 6, with Elastic Steel Connecting Rod.

Also, ONE 20 inch UNIVERSAL PULVERISER. Will reduce to powder any refractory material, wet or dry, Tin Ores, Quartz, &c.

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BRITISH DIVIDEND MINES.

Shares.	Divid.	Last wk.	Clos. pr.	Total divs.	Per sh.	Last pd.
12000 Bedford Unit, c. Tavis. (£1 lab.)	0 14	0 14	1 14	0 1	0 1	May 1884
4000 Carn Brea, c. t. Illogan	13 15	5 3	3 3	52 11	8 0	Nov. 1881
4000 Craignant Bach, c. t. Cardigan	5 0	0 0	0 0	0 0	0 0	Nov. 1882
1242 Devon Gr. Consols, c. t. Tavistock	1 0	0 0	0 0	0 0	0 0	Nov. 1882
4700 Dolcoath, c. t. Camborne	10 14	10 66	65 66	40 17	2 0	Dec. 1880
8400 East Pool, c. t. Illogan	0 9	33	33	19 16	0 1	Nov. 1884
12000 Great Holway, c. t. Flintshire	5 0	0 0	0 0	0 0	0 0	Sept. 1883
14000 Great Laxey, c. t. Isle of Man	4 0	0 0	0 0	0 0	0 0	Oct. 1884
8400 Green Hurl, c. t. Durham	0 6	0 0	0 0	0 0	0 0	July 1884
9830 Gunlake (Clitters), c. t.	2 2	0 0	0 0	0 0	0 0	Nov. 1884
2800 Isle of Man, c. t. Isle of Man	25 0	0 0	0 0	0 0	0 0	Mar. 1882
6000 Killfretth, c. t. Chacewater	4 11	6 13	3 7	33 5	0 1	Sept. 1880
21000 Leadhills, c. t. Lanarkshire	6 0	0 0	0 0	0 0	0 0	Sept. 1884
2500 Levant, c. t. St. Just	11 0	0 0	0 0	0 0	0 0	Oct. 1884
400 Lisburne, c. t. Cardiganshire	18 15	0 0	0 0	0 0	0 0	June 1883
17000 Melanear, c. t. Hayle	2 6	0 0	0 0	0 0	0 0	Jan. 1884
9000 Minera Mining Co., c. t. Wrexham	5 0	0 0	0 0	0 0	0 0	Aug. 1884
20000 Mining Co. of Ireland, c. t. c. t.	7 0	0 0	0 0	0 0	0 0	Jan. 1880
1829 North Hendra, c. t. Wales	2 10	0 0	0 0	0 0	0 0	Nov. 1882
8148 Ditto	2 10	0 0	0 0	0 0	0 0	Nov. 1882
12000 Phoenix United, c. t. c. t. Linkinhorne	6 5	2 2	1 14	17 3	0 2	Nov. 1882
12000 Roman Gravel, c. t. Salop	7 10	0 0	0 0	0 0	0 0	Mar. 1884
6123 South Condurrow, c. t. c. t. Camborne	7 5	7 7	3 4	11 8	0 7	Aug. 1883
9000 South Darren, c. t. Cardigan	1 10	3 4	3 4	4 0	0 2	Apr. 1880
6000 Tincroft, c. t. Pool, Illogan	14 7	7 7	7 7	51 3	0 8	Dec. 1881
15000 Van, c. t. Llandidloes (in Ag.)	4 5	0 0	0 0	0 0	0 0	Jan. 1883
6000 West Bassett, c. t. Illogan	7 13	4 1	1 14	28 3	0 8	Apr. 1882
6000 West Killy, c. t. St. Agnes	3 12	0 0	0 0	0 0	0 0	July 1884
6000 Wheel Agar, c. t. Illogan	19 6	18 18	1 14	1 1	0 3	Nov. 1883
12000 Wheel Oreor, c. t. Tavistock	2 4	0 0	0 0	0 0	0 0	Nov. 1883
1024 Wheel Eliza Consols, c. t. St. Austell	18 0	0 0	0 0	0 0	0 0	Aug. 1884
6000 Wheel Grenville, c. t. Camborne	15 0	0 0	0 0	0 0	0 0	Aug. 1884
6000 Wheel Killy, c. t. St. Agnes	5 12	0 0	0 0	0 0	0 0	Jan. 1881
3000 Wheel Peavor, c. t. Redruth	14 9	6 6	3 3	8 13	0 4	Mar. 1881

FOREIGN DIVIDEND MINES.

Shares.	Divid.	Last wk.	Clos. pr.	Total divs.	Per sh.	Last pd.
35500 Alamillos, c. t. Spain	2 0	0 0	1 14	2 16	8 0	Sept. 1884
30000 Almada and Trilco Consol.	1 0	0 0	3 4	3 6	3 0	May 1876
20000 Australian, c. t. South Australia	4 0	0 0	1 14	1 11	0 0	June 1884
15000 Birdseye Creek, c. t. California	4 0	0 0	1 14	1 11	0 0	June 1884
30000 Bratsberg, c. t. Norway	1 0	0 0	1 14	1 11	0 0	June 1884
30000 California, c. t. Colorado	1 0	0 0	1 14	1 11	0 0	June 1884
20000 Cape Copper Mining, c. t. South Africa	8 0	0 0	4 14	4 12	58 17	Aug. 1884
65000 Colorado United, c. t. Colorado	5 0	0 0	2 14	2 16	3 0	May 1883
50000 Colapio, c. t. Chile (24 shares)	3 10	0 0	2 14	2 16	3 0	Sept. 1884
70000 English & Australian, c. t. c. t. Aust.	2 10	0 0	0 0	0 0	0 0	Mar. 1884
8000 Eng. Aus. & Viet. pref. (20000 sh.)	1 0	0 0	0 0	0 0	0 0	Mar. 1882
25000 Fortuna, c. t. Spain	2 10	0 0	3 4	3 6	3 0	Sept. 1884
72000 Frontino & Bolivia, c. t. New Gran.	2 10	0 0	3 4	3 6	3 0	Sept. 1884
400000 La Plata, c. t. Leadville	1 0	0 0	3 4	3 6	3 0	Sept. 1884
5000 Linars, c. t. Spain	3 0	0 0	3 4	3 6	3 0	Sept. 1884
20000 Marbella Iron Ore, c. t. Spain	10 0	0 0	2 14	2 16	10 0	June 1882
135144 Mason & Barry, c. t. Portugal	10 0	0 0	3 4	3 6	3 0	Oct. 1884
300000 Montana, c. t. U.S.A.	2 0	0 0	3 4	3 6	3 0	Sept. 1884
125000 Oxford, c. t. Nova Scotia	0 4	0 0	3 4	3 6	3 0	Mar. 1884
80559 Quebrada Real, Land & Cop. Venezuela	10 0	0 0	3 4	3 6	3 0	Mar. 1884
50000 Panguillo, c. t. Chile	4 0	0 0	3 4	3 6	3 0	Mar. 1884
25000 Pitangui, c. t. Brazil (in 8000 pt. sh.)	6 18	0 0	3 4	3 6	3 0	May 1884
1400 Pontgibaud, c. t. France	20 0	0 0	3 4	3 6	3 0	Dec. 1883
100000 Port Phillip, c. t. Clunes (22 shares)	1 0	0 0	3 4	3 6	3 0	Feb. 1881
50000 Rara Fortuna, c. t. Argent. Republic	1 0	0 0	3 4	3 6	3 0	July 1882
54000 Richmond Consol., c. t. Nevada	5 0	0 0	4 14	4 12	14 5	Aug. 1883
24532 Rio Tinto, c. t. Mortgage Bds. Huvelin	0 91	88 90	5 0	5 0	5 0	Oct. 1884
325000 Ditto, shares	10 0	0 0	13 14	13 14	4 10	Nov. 1883
60000 Santa Barbara, c. t. c. t. Chile	0 10	0 0	1 14	1 11	0 12	May 1882
12000 Schwab Gully, c. t. Kimberley	10 0	0 0	3 4	3 6	3 0	Oct. 1884
120000 Scottish-Australian Mining Co.	1 0	0 0	3 4	3 6	3 0	Oct. 1884
40000 Ditto, New	0 10	0 0	1 14	1 11	20 0	Oct. 1884
22500 Sierra Buttes, c. t. California	2 0	0 0	3 4	3 6	3 0	Oct. 1884
40625 Ditto, Pumas Eureka	2 0	0 0	3 4	3 6	3 0	Oct. 1884
253000 St. John del Rey (25 Stock and multiple dealt in)	67 14	72 14	5 0	5 0	p. c. for half-year, June 1882	
180000 Tambrachery, c. t. c. t. Wynaad	1 0	0 0	3 4	3 6	3 0	Aug. 1882
625000 Tharais, c. t. c. t. Spain (58730 issued)	2 0	0 0	3 4	3 6	3 0	May 1883
14000 Tolima, c. t. Colombia (A shares)	5 0	0 0	3 4	3 6	3 0	Oct. 1884
6000 Ditto (B shares)	5 0	0 0	3 4	3 6	3 0	Oct. 1884
25000 Victoria (London), c. t. Australia	1 0	0 0	3 4	3 6	3 0	Feb. 1881
124221 United Mexican, c. t. Mexico	9 17	6 3	3 4	3 6	5 0	Nov. 1884
100000 Victorine (Nevada, U.S.) Deb. Bds.	1 0	0 0	3 4	3 6	3 0	June 1882
15000 Western Andes, c. t. Colombia	5 0	0 0	3 4	3 6	3 0	Aug. 1884
2100 W. Prussian (5500 pref. sh. £10 pd.)	10 0	0 0	3 4	3 6	3 0	Apr. 1881
64800 York Pen., c. t. South Aust. Pref. sh.	1 0	0 0	3 4	3 6	3 0	Apr. 1882

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25000 Aberduna, c. t. Denbigh	1 10	0 0	3 4
12000 Anderton, c. t. c. t. Devonshire	1 6	0 0	3 4
12000 Asheton, c. t. Carnarvonshire	5 0	0 0	3 4
13200 Blue Hills, c. t. St. Agnes	4 8	6 6	3 4
30000 Brada, c. t. Isle of Man	1 0	0 0	3 4
0000 British, c. t. c. t. Wrexham	1 0	0 0	3 4
0000 British Manganese Consol.	1 0	0 0	3 4
0000 Burnhope, c. t. c. t. Edmondbyers	0 5	0 0	3 4
20000 Welsh United, c. t. Cardigan	1 0	0 0	3 4
12000 Colliam Consols, c. t. c. t. Lamerton	0 2	8 8	3 4
30000 Carn Camborne, c. t. c. t. Camborne	1 0	0 0	3 4
37500 Carnarvonshire Consol., c. t. c. t. Llanrwst	2 0	0 0	3 4
6400 Cashwell, c. t. c. t. Gwennap	2 19	0 0	3 4
6000 Central, c. t. c. t. Gwennap	1 10	0 0	3 4
20000 Central Fodale, c. t. c. t. Isle of Man	1 17	0 0	3 4
30000 Clifford Amalgamated	1 0	0 0	3 4
25000 Coed-y-Fedw & Pant-y-Buarth, c. t. c. t.	1 0	0 0	3 4
2450 Cook's Kitchen, c. t. Illogan	35 14	9 10	3 4
50000 Creiglog, c. t. c. t. Denbighshire	0 17	0 0	3 4
34000 Crook Burn, c. t. c. t. Llanrwst	0 17	0 0	3 4
12000 D'Eresby, c. t. c. t. Llanrwst	0 10	0 0	3 4
15000 Derwent, c. t. c. t. Durham	4 0	0 0	3 4
0000 Devon Friendship, c. t. c. t. Tavistock	1 0	0 0	3 4
12000 Devon Great Union, c. t. c. t. (21 shares)	1 17	6 6	3 4
50000 Drakewalls, c. t. c. t. Calstock	0 15	0 0	3 4
50000 Duchy Peru, c. t. c. t. Cornwall	1 0	0 0	3 4
12000 East Blue Hills, c. t. St. Agnes	0 5	0 0	3 4
6144 East Dolcoath, c. t. St. Just	1 2	0 0	3 4
6000 East Dolcoath, c. t. St. Just	2 6	6 6	3 4
30000 East Dolcoath, c. t. St. Just	1 0	0 0	3 4
15000 East Devon Cons., c. t. c. t. Buckfastleigh	1 0	0 0	3 4
20000 East Long Rake, c. t. c. t. Wales	1 0	0 0	3 4
25000 East Roman Gravel, c. t. c. t. Salop	1 0	0 0	3 4
18000 East Van, c. t. c. t. Llandidloes	5 0	0 0	3 4
2048 East Wheel Lovell, c. t. Helston	0 3	8 8	3 4
100000 East Wheel Rose, c. t. c. t. Newlyn East	1 0	0 0	3 4
25000 Ecton, c. t. c. t. Wotton	0 10	0 0	3 4
12500 Frongoch, c. t. c. t. Cardigan (1000 sh. iss.)	2 0	0 0	3 4
12000 Gawton, c. t. Tavistock	2 5	0 0	3 4
40000 Glas. Car. c. t. (30000 sh. £1 pd., 10000 15s. pd.)	1 0	0 0	3 4
30000 Gobbett, c. t. c. t. Devon	1 0	0 0	3 4
10000 Goddards, c. t. c. t. Carnarvon	1 0	0 0	3 4
32000 Goginan, c. t. c. t. Cardiganshire	1 0	0 0	3 4
30000 Goodere, c. t. c. t. St. Cleer	1 0	0 0	3 4
8500 Gorseid and Llynlyn Consol., c. t. c. t. Flint	2 10	0 0	3 4
6000 Great West Gwinn, c. t. c. t. St. Agnes	0 6	6 6	3 4
0000 Great W. Shepherd's, c. t. c. t. Cornwall	2 0	0 0	3 4
20000 Grogwinion, c. t. c. t. Cardigan	2 0	0 0	3 4
0000 Gwyn-y-Mynydd, c. t. c. t. Flint (pref.)	4 0	0 0	3 4
8400 Hardshins, c. t. c. t. Westmore. (10s. sh.)	0 7	6 6	3 4
12000 Herodsfoot, c. t. c. t. near Liskeard	1 5	0 0	3 4
18000 Hingston Down, c. t. c. t. Calstock	0 13	0 0	3 4
38000 Holway Consols, c. t. c. t. Flintshire	1 0	0 0	3 4
25000 Kit Hill Gt. Cons., c. t. c. t. (21 sh.)	1 2	8 8	3 4
15000 Lady Ann, c. t. c. t. Llanarmon	1 0	0 0	3 4
15000 Llandegla, c. t. c. t. Wales	1 0	0 0	3 4
5120 Lovell, c. t. c. t. Wendron	1 8	0 0	3 4
9000 Marke Valley, c. t. c. t. Linkinhorne	7 15	6 6	3 4
30000 Mona, c. t. c. t. Anglesea	5 0	0 0	3 4
20000 Mona Consols, c. t. c. t. Anglesea	1 0	0 0	3 4
20000 Mostyn Consols, c. t. c. t. Flint	1 0	0 0	3 4
12000 Morris Du., c. t. c. t. Anglesea	1 0	0 0	3 4
0000 Mounts Bay, c. t. c. t. Breage	1 0	0 0	3 4
6144 Mount Carbis, c. t. c. t. Redruth	1 19	0 0	3 4
12000 New Cardon, c. t. c. t. St. Cleer	0 6	0 0	3 4
24000 New Dolcoath, c. t. c. t. Illogan	10 5	6 6	3 4
12000 New Dolcoath, c. t. c. t. Illogan	3 0	0 0	3 4
10000 New Dolcoath, c. t. c. t. Illogan	3 0	0 0	3 4
6000 New Holmby, c. t. c. t. c. t. Callington	1 9	0 0	3 4
25000 New Langford, c. t. c. t. Callington	2 6	0 0	3 4
15000 New Redmore, c. t. c. t. Callington	1 5	0 0	3 4
17500 New Terras, c. t. c. t. St. Austell	2 0	0 0	3 4
3500 New Tincroft, c. t. c. t. Lelant	0 0	0 0	3 4
12000 New Trumpet, c. t. c. t. Wendron	1 0	0 0	3 4
90000 New Van Consol., c. t. c. t. Glyn	7 0	0 0	3 4
18000 New West Cardon, c. t. c. t. Liskeard	0 7	0 0	3 4
3000 New Wheel Peavor, c. t. c. t. Redruth	0 10	0 0	3 4
12000 North Blue Hills, c. t. c. t. St. Agnes	0 2	6 6	3 4
5328 North Busy, c. t. c. t. Scorrier	2 4	0 0	3 4
10000 N. D'Eresby Mount, c. t. c. t. c. t. Carnarv.	1 0	0 0	3 4
25000 North Goginan, c. t. c. t. Cardiganshire	1 0	0 0	3 4
8400 North Green Hurl, c. t. c. t.	1 0	0 0	3 4
25000 North Grogwinion, c. t. c. t. Cardigan	1 0	0 0	3 4

NON-DIVIDEND MINES—continued.

Shares.	Divid.	Last wk.
2000 North Herodsfoot, <i>l</i> , Liskeard.	0 13	4 4
2000 North Levant, <i>t</i> , <i>c</i> , St. Just	14 3	6 6
50000 North Molton, <i>c</i> , <i>m</i> , <i>t</i> , Devon	1 0	0 0
2336 North Trekerby, <i>c</i> , St. Agnes	1 0	0 0
3000 Northern, <i>t</i> , Durham	8 17	10 0
40000 Okel Tor, <i>t</i> , <i>c</i> , <i>a</i> , Calstock	1 0	0 0
80000 Old Shepherds* <i>t</i> , <i>c</i> , Cornwall	1 0	0 0
80000 Owen Veal & Tregur, <i>t</i> , <i>c</i> , Marazion	1 0	0 0
45000 Parys Corporation, <i>c</i> , Anglesea	1 0	0 0
7500 Pateley Bridge, <i>l</i> , Yorkshire	1 0	0 0
6000 Pedn-ar-dren, <i>t</i> , Redruth	4 10	0 0
6000 Pennant, <i>l</i> , <i>c</i> , North Wales*	5 0	0 0
20000 Penegareg, <i>t</i> , Carmarthenshire	1 0	0 0
15000 Pen-y-Osred, <i>t</i> , Flintshire	1 0	0 0
10000 Polberro, <i>t</i> , St. Agnes	0 3	0 0
12000 Polcresco, <i>t</i> , Crowan	0 11	3 4
10000 Port Nigel Syn., <i>t</i> , <i>c</i> , Carnar. (4000 <i>l</i> .)	0 15	0 0
13000 Pr. Patrick, <i>t</i> , <i>c</i> , <i>l</i> , (als. 12000 <i>p</i> . 10 <i>p</i> .)	1 0	0 0
12000 Prince of Wales, <i>t</i> , <i>c</i> , Calstock	1 2	0 0
30000 Russell United, <i>c</i> , Tavistock	0 19	0 0
30000 Silver Hill, <i>c</i> , Callington	1 0	0 0
50000 Sincilar, <i>t</i> , <i>bl</i> , Whitford	1 0	0 0
30000 Sorbridge, <i>c</i> , Horrabridge	1 0	0 0
53000 South Aradon, <i>c</i> , St. Cleer	1 0	0 0
8000 South Carbis, <i>t</i> , <i>c</i> , Redruth	0 10	0 0
30000 So. Devon Unit., <i>c</i> , Buckfastleigh	1 0	0 0
5000 South Dolcoath, <i>t</i> , <i>c</i> , Illogan	0 19	0 0
8000 South Killyt, <i>t</i> , St. Agnes	0 10	0 0
8000 South Penstruthal, <i>c</i> , <i>c</i> , <i>g</i>	3 16	0 0
30000 So. Phoenix Aradon, <i>t</i> , <i>c</i> , Linkinhin	1 0	0 0
8000 South Tolcarne, <i>t</i> , <i>c</i> , Camborne	5 11	0 0
2043 South Wheal Crofty, <i>c</i> , Illogan	7 4	0 0
8000 South Wheal Francis, <i>t</i> , Illogan	10 4	0 0
30000 Standard, <i>t</i> , <i>bl</i> , Llanrwst	1 0	0 0
40000 Tamar, <i>t</i> , <i>l</i> , Bearaolton*	1 0	0 0
12000 Trebartha Larnar, <i>t</i> , Northill	0 8	3 4
5000 Tregeno, <i>t</i> , <i>c</i> , Cornwall	4 3	0 0
50000 Tregynonant, Old Polgooth Con.	1 0	0 0
00000 Trevean, <i>t</i> , <i>c</i> , Gwennapp	1 0	0 0
8000 Trevaunance, <i>t</i> , St. Agnes	1 0	0 0
1000 Vaughan, <i>t</i> , Cardiganshire	10 0	0 0
50000 Weardale, <i>c</i> , Northumb. (4 <i>l</i> share)	1 5	0 0
12000 West Asselton, <i>l</i> , Carnarvon	1 0	0 0
12000 West Aradon, <i>c</i> , St. Cleer	10 9	0 0
3000 West Cornwint, <i>c</i> , Cornwall	1 0	0 0
3000 W. Craven Moor, <i>c</i> , Pateley Bridge*	10 0	0 0
12000 West Crebor, <i>c</i> , Tavistock	0 11	8 0
10240 West Devon Consols, <i>c</i> , Calstock	1 2	0 0
10000 West Godolphin, <i>t</i> , <i>c</i> , Breage	1 0	0 0
12000 West Gonaмена, <i>c</i> , St. Cleer	0 1	0 0
15000 West Holway, <i>t</i> , Flintshire	1 0	0 0
10000 West Liskearth, <i>t</i> , Cardigan	1 0	0 0
3000 West Mary Ann, <i>t</i> , Menheniot	118	0 0
20000 W. Pateley Bridge, <i>t</i> , St. Agnes	1 0	0 0
12000 West Phoenix, <i>t</i> , Linkinhin	1 5	0 0
6000 West Polbreen, <i>t</i> , <i>c</i> , St. Agnes	0 10	0 0
5190 West Pollice, St. Day	8 0	0 0
6141 West Wheal Frances, <i>t</i> , Illogan	14 10	0 0
3000 West Wheal Pevor, <i>t</i> , Redruth	4 18	0 0
6000 West Wheal Secon, <i>c</i> , Camborne	20 10	0 0
6100 West Rastell, <i>c</i> , Illogan	9 7	16 0
4000 Wheal Benny, <i>t</i> , Litchey	5 0	0 0
20000 Wheal Boys, <i>t</i> , Redruth	1 3	6 0
20000 Wheal Castle, <i>c</i> , <i>t</i> , St. Just	1 0	0 0
2000 Wheal Coates, <i>t</i> , St. Agnes	0 12	0 0
2586 W. Comf., & No. Treas., <i>c</i> , Gwennapp	2 2	0 0
2000 Wheal Elizabeth, <i>t</i> , Cornwall	1 0	0 0
2238 Wheal Jane, <i>t</i> , Kea	3 11	0 0
2000 Wheal Jewel, <i>t</i> , St. Hilary	1 0	6 0
2000 Wheal Luskay, <i>t</i> , Callington	0 3	9 0
2000 Wheal Metal and Flow, <i>t</i> , Breage	0 2	6 0
2000 Wheal Owens, <i>t</i> , St. Just	7 3	0 0
2000 Wh. Silver & Lantagos, <i>t</i> , <i>c</i> , Cameffe	4 2	0 0
6000 Wheal Sisters, <i>t</i> , Lelant	4 2	0 0
9856 Wheal Uny, <i>t</i> , <i>c</i> , Redruth	23 7	0 0
1886 Wye Valley, <i>l</i> , Montgomery*	1 0	0 0
9000 Yeoland Consols, <i>t</i> , Devonshire	0 12	8 0
9000 Yetwith, <i>l</i> , Cardigan	1 0	0 0

bl, blonde; *c*, copper; *g*, gold; *l*, lead; *s*, silver; *st*, silver-lead; *t*, tin; *z*, zinc; *i*, iron; *a*, arsenic; *d*, diamond. Limited Liability Companies; *l* quoted on the Stock Ex.